

**United States Department of Commerce**

**Combined Coastal Program Document and  
Final Environmental Impact Statement for  
the State of Indiana**

**April 2002**

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NOAA.

DESIGNATION: Final Environmental Impact Statement

TITLE: Proposed Federal Approval of the Indiana Lake Michigan Coastal Program

ABSTRACT: The State of Indiana has submitted its Lake Michigan Coastal Program to the Office of Ocean and Coastal Resource Management for approval pursuant to section 306 of the federal Coastal Zone Management Act of 1972 as amended (CZMA), 16 U.S.C. 1451 et seq. Approval would allow program administrative grants to be awarded to the state and would require that federal actions be consistent with the program. This document includes a copy of the program, which is a comprehensive program for coastal land and water use activities. It consists of numerous rules on diverse management issues that are administered under Indiana laws and is the culmination of several years of program development. The Indiana Lake Michigan Coastal Program promotes the beneficial use of coastal resources, prevents their impairment, and manages major activities that substantially affect numerous resources. The program will enhance decision-making processes used for determining the appropriateness of actions in the coastal area.

Approval and implementation of the program will enhance governance of Indiana's coastal land and water uses according to the coastal policies and standards contained in Indiana's statutes, authorities and rules. Federal alternatives to program approval include delaying or denying approval, if certain requirements of the Coastal Zone Management Act have not been met. The state could modify parts of the program or withdraw its application for federal approval if either of the above federal alternatives results from circulation of this document. This document includes responses to comments received on the draft EIS published in September 2001.

APPLICANT: State of Indiana, Department of Natural Resources

LEAD AGENCY: U.S. DEPARTMENT OF COMMERCE  
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COMMENTS: Comments on the Final Environmental Impact Statement may be sent to NOAA at the address noted above. Pursuant to the National Environmental Policy Act, NOAA must wait a minimum of 30 days before making a final decision.

## NOTE TO READERS

The National Environmental Policy Act (NEPA) of 1969 requires that an environmental impact statement be prepared as part of the review and approval process by federal government agencies of major actions, which significantly affect the quality of the human environment. The federal action contemplated is approval of the Indiana Lake Michigan Coastal Program under section 306 of the federal Coastal Zone Management Act of 1972, as amended (CZMA). It is the general policy of the federal Office of Ocean and Coastal Resource Management (OCRM) to issue combined environmental impact statements and program documents.

Part I of this final Environmental Impact Statement (FEIS) was prepared jointly by the OCRM and the State of Indiana, and provides summary information concerning the Indiana Lake Michigan Coastal Program (LMCP), including how the state has addressed the requirements of the CZMA. Part II of the FEIS is a description of Indiana's coastal program and was prepared by the state. It has been reviewed by the OCRM and is relied upon as a description of the proposed action for purposes of NEPA. Part III fulfills the remaining NEPA requirements for a FEIS and was prepared by the OCRM with assistance from the State of Indiana.

An immediate effect of federal approval of the Indiana program is the qualification of the state for federal matching of funds for use in administering the program. In addition, the CZMA provides a procedure for the state to review federal actions for consistency with its approved coastal program.

For purposes of reviewing this proposed action, the key questions are:

- whether the Indiana program is consistent with the objectives and policies of the national legislation;
- whether the awarding of federal funds under section 306 of the federal Act will help Indiana to meet those objectives;
- whether Indiana management authorities and rules are adequate to implement the program;
- whether there will be a net environmental gain as a result of program approval and implementation.

OCRM has made a preliminary determination that the answers to these questions are affirmative. OCRM wants the widest possible circulation of this document to all interested agencies and parties in order to receive the fullest expression of opinion on these questions. OCRM thanks those participating in the review of the LMCP and this FEIS.

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## **PART I: OVERVIEW**

### **A. SUMMARY OF THE INDIANA LAKE MICHIGAN COASTAL PROGRAM**

The State of Indiana has developed the Indiana Lake Michigan Coastal Program (LMCP) describing current state coastal legislation and management policies. The LMCP proposes no new state programs, regulations, or laws. It is based on an approach termed "networking," which is a framework and process for linking existing state programs, agencies, and laws into a system that will meet federal requirements for an effective state coastal program.

Part II of this document describes the laws, regulations, and programs that are the basis of the LMCP. Chapter 5 includes management authorities and rules, which set forth managed uses in the coastal zone in Indiana, and various policies and authorities embodied in statute and regulations.

After several years of program development efforts, the state now seeks federal approval of its program. This summary briefly describes the key aspects of the program and the benefits of participation in the federal CZM program.

#### **1. Program Authorities and Organization**

The LMCP is a "networked" program made up of several Indiana natural resource protection programs. The lead agency for implementing the program is the Indiana Department of Natural Resources (DNR). Within DNR the Division of Soil Conservation has the lead for coordinating the programs of DNR and other state agencies into a comprehensive CZM program. The organizational structure of the program and specific means of coordinating the various agencies included in the program are discussed in Chapter 4 Part II.

State laws and regulations included in the LMCP are organized into ten issue-areas listed below. Detailed descriptions of each issue, its underlying authority and implementation process are provided in Chapter 5 of Part II of this document.

#### **Procedural Framework for the Administration of Management Authorities**

The State of Indiana has broad authority to create and implement laws and programs to manage natural and cultural resources within the state. The State of Indiana has a well-developed framework of laws, rules, and programs for the management of natural and cultural resources. The framework provides processes and procedures for developing rules, implementing programs, enforcing laws, issuing permits, providing for interagency coordination, and providing for public input.

The state framework is implemented through the Governor, Legislature, state courts, rule making boards including the Air Pollution Control Board, Water Pollution Control Board, the Solid Waste Management Board, and Natural Resources Commission, state agencies, and in some cases, through delegation to local governments.

The processes and procedures that govern activities managed in Indiana's coastal area include the following major state laws:

- Civil and Criminal Enforcement
- Pre-permit Hearings

- Administrative Orders and Procedures Act (AOPA)
- Informal Dispute Resolution
- Rule Development
- Nonrule Policy Development
- Ordinances
- Public Access to Agency Records and Meetings
- Indiana Environmental Policy Act
- Environmental Citizen Suit Act

### Coastal Hazards

Coastal hazards, including shoreline erosion, can endanger life and property. In addition, the lakebed of Lake Michigan is held in trust and managed for the use and benefit of Indiana's citizens. Therefore the state has implemented programs and policies to prevent and mitigate the impacts of coastal erosion, flooding, storm damage, and other natural hazards. The DNR also has broad authority to protect the public trust in Lake Michigan waters through the following management authorities:

- Delineation of the Ordinary High Watermark
- Navigable Waterways Act
- Sand Nourishment Fund
- Technical Assistance for Coastal Construction

### Water Quality

The DNR and IDEM have broad authority to protect against processes or systems likely to result in water quality degradation. As a general principle, a person may not throw, drain, allow to seep, or otherwise dispose of organic or inorganic matter that contributes to the pollution of streams or waters of Indiana (IC 13-18-4-5). The state also manages resources for public water supplies, activities that may cause or contribute to nonpoint or diffuse sources of water pollution, and activities that may affect the quality of groundwater.

The following are the major management authorities the state can utilize to protect water quality:

- Great Lakes Water Quality Standards
- Wastewater Permit Program (NPDES)
- Wastewater Facility Construction Permit Program
- Section 401 Water Quality Certification Program
- Bathing Beach Monitoring Program
- Clean Vessel Act Pumpout Program
- Marina Pumpout Rule
- Drinking Water Permit Program
- Wellhead Protection Program
- Lake Permit Program
- Residential Sewage Disposal Program
- Commercial Sewage Disposal Program
- Concentrated Animal Feeding Operations Permit Program
- Pesticide Program
- Land Application Program
- Water Well Driller's License

## Water Quantity

The State of Indiana utilizes several programs and authorities to manage water resources. Residential construction in flood plains is regulated according to local ordinances and the state prohibits the construction of new homes in the flood way. Certain waterway maintenance activities are regulated locally by standards in state statute. The state oversees the voluntary establishment of Conservancy Districts as governmental entities to address water management issues.

Several statutes addressing activities in floodways, strategies for water emergencies, and planning for future water availability are administered directly by the state. Federal programs are managed directly by federal agencies or indirectly through state government. For example, the Clean Water Act Section 404 permit required for construction activities in federally navigable waters is obtained from the U.S. Army Corps of Engineers (ACOE). The DNR Division of Water, on the other hand administers the National Flood Insurance Program. The state also manages activities associated with reconstruction and maintenance of drains, dams, levees, and dikes, water withdrawals, and diversion of water outside the Great Lakes basin in Indiana.

The following are Indiana's water resource management authorities:

- Flood Control Act
- Flood Plain Management Act
- Administration of the National Flood Insurance Program
- Indiana Drainage Code establishing regulated drains
- Dam Inspection Program
- Indiana Great Lakes Water Diversion Legislation
- Indiana Water Shortage Plan
- Model Water Code: Reasonable Beneficial Use Assessment
- Registration of Significant Water Withdrawal Facilities
- Groundwater Emergencies Act
- Lake Preservation Act
- Indiana Conservancy Act

## Natural Areas, Fisheries, Wildlife, and Native and Exotic Species

The DNR is the State of Indiana's land holding agency with the power to acquire and manage lands for the management of natural habitats, fish and wildlife population, and for recreational opportunities for citizens of the state. The DNR protects and properly manages the fish and wildlife resources of Indiana through several mechanisms. The state designates and protects state endangered species through statute, permitting, regulating the filling, dredging, and alteration of wetlands and other special aquatic sites, and other protection activities including establishment of nature preserves, state parks, and fish and wildlife areas. The state also regulates the use and propagation of certain species that are exotic, pests, or invasive species that may negatively affect state fish and wildlife populations or commercial natural resource products. Additionally, the DNR is directed to regulate commercial fishing in Lake Michigan to protect the resource of fish for commercial and sport fishing.

The following are Indiana's management authorities for natural areas, fisheries, wildlife, and native and exotic species:

- Section 401 Water Quality Certification Program
- Rule 5

- Flood Control Act
- Navigable Waterways Act
- Wetlands and Habitat Mitigation Nonrule Policy
- Wetland Conservation Guidelines
- Nature Preserves Law
- Uniform Conservation Easement Act
- Outstanding Rivers List Nonrule Policy
- Outstanding State Resource Waters Nonrule Policy
- Outstanding National Resource Waters Nonrule Policy
- Salmonid Waters Nonrule Policy
- Wild Animal Kill Law
- Classified Wildlife Habitat, Riparian Land, and Forest Programs
- Natural Areas Registry
- Indiana Forest Legacy Program
- Hunting and Trapping Licenses Program
- Sport and Commercial Fishing Licenses Program
- Nongame and Endangered Wildlife Program
- Rare and Endangered Insects and Plants List Nonrule Policy
- Exotic Mammals and Birds License
- Fish Importation Permit
- Aquaculture Permit
- Nuisance Species Importation Regulation
- Zebra Mussel Containment Nonrule Policy
- Pest and Pathogen Management Program

#### Recreation, Access, and Cultural Resources

The DNR manages natural and cultural resources for public recreation and access. The management of recreation, access, and cultural resources is accomplished by the development of public parks, recreation areas, hunting areas, fishing areas, and through the preservation of archeological and historical sites.

The following management authorities are used by the state to protect and manage recreational and cultural resources.

- Statewide Comprehensive Outdoor Recreation Plan
- Lake Michigan Marina Development Commission
- Indiana Port Commission
- Motorboat Operators License Program
- Boat Titling and Registration Program
- Watercraft Use Rules (including speed limits and swimming only areas)
- Historic Preservation Commission
- Artifacts or Burial Objects Protection Permit Program
- Administration of National Register of Historic Places
- Indiana State Register of Historic Places
- Indiana Historic Rehabilitation Tax Credit Program
- Section 106 Review
- Administration of the Abandoned Shipwreck Act



### Economic Development

The state has several programs and authorities to manage and promote economic development. The state's transportation facilities and the infrastructure are managed to maintain existing economic sectors and to develop new economic development. The Lake Michigan region is also an important economic region due to its ability to provide water-borne transport through ports and for the concentration of energy facilities and industries. The state manages its ports and adjacent development to maintain efficient operations and for potential expansion. The state also actively manages the siting and development of major energy facilities and methods of storing and transporting energy resources. The management and promotion of economic development is accompanied by the responsibility to remediate pollution and redevelop brownfields and other underutilized sites.

The following are the primary management authorities that guide the state's role in economic development.

- Indiana Port Commission
- Utility Power plant Construction Act
- Indiana Utility Regulatory Commission
- Navigable Waterways Act
- Voluntary Remediation Program
- Brownfield Redevelopment Program
- Administration of the Federal Brownfields Tax Incentive Program

### Pollution Prevention, Recycling, Reuse, and Waste Management

Industrialization and economic expansion are important components of the Indiana coastal region's economy. As the industrialization of the early twentieth century focused on expansion, today's need for economic development focuses on pollution prevention through environmentally and economically sound approaches. The state implements several techniques to promote pollution prevention, recycling, and reuse of resources. These techniques include managing the storage, handling, disposal, and transportation of solid and hazardous wastes. The state has also established programs to clean up previously unregulated hazardous waste disposal sites and underground storage tanks.

The following management authorities are used by the state to achieve and encourage pollution prevention, recycling, reuse, and waste management:

- Solid Waste Management Board
- Solid waste certification, monitoring, and reporting process
- Nonrule policy guidance through the Department of Environmental Management Hazardous Waste Program
- Permitting of land application of biosolids and industrial waste products
- Registration certification of waste tire storage or processing sites
- State Cleanup Program
- Hazardous Substances Response Trust Fund
- Emergency Response Program
- Emergency Response Order and Remediation Action
- Defense Environmental Restoration Program
- State Trustee Role in Natural Resource Damage Assessments
- Contingency plan for the Accidental Release of Petroleum in Lake Michigan

- Underground Storage Tank Release Detection, Prevention, and Correction Program
- Underground Petroleum Storage Tank Excess Liability Trust Fund
- Underground Storage Tank Grant Closure Program
- Indiana General Assembly Policy for Pollution Prevention
- Department of Environmental Management Office of Pollution Prevention and Technical Assistance
- Compliance and Technical Assistance Program
- State Annual Reporting of Toxic Releases Requirements
- Indiana Clean Manufacturing Technology and Safe Materials Institute
- Indiana Institute of Recycling
- Department of Commerce Recycling Market Development Program
- Indiana Recycling and Energy Development Board

### Air Quality

In 1961, the State of Indiana enacted legislation to create the Air Pollution Control Board and authorize the Board to take actions necessary to cause the abatement of air pollution. However, significant progress in addressing air quality did not occur until the federal Clean Air Act of 1970 was passed. The Clean Air Act established national primary and secondary air quality standards. State implementation plans to achieve air quality standards are key to implementing the Clean Air Act.

The Indiana Air Pollution Control Board has developed detailed rules to address air quality including:

- Ambient air quality standards
- Episode Alert Levels
- Permit Review Standards
- Monitoring Requirements
- Opacity Standards
- Sulfur Dioxide Standards
- Volatile Organic Compound Standards
- New Source Performance Standards
- Motor Vehicle Emission and Fuel Standards
- Emission Standards for Hazardous Air Pollutants
- Lead Standards
- Asbestos Management at Schools
- Mobile Source Rules
- Acid Deposition Control
- Stratospheric Ozone Protection
- Attainment Status Designations for Counties
- Open Burning Rules
- Stage II Vapor Recovery on Gasoline Pumps in Nonattainment Areas
- Ozone Forecasting Program
- Sinter Plant Air Quality Standards
- Partners for Clean Air
- Smog Watch
- Indiana's Air Toxics Program
- Indiana Air Permitting Guide

## Property Rights

An important issue in Northwest Indiana is property rights. Often transcending environmental and economic concerns, rights of individuals and businesses are considered by the state when state actions are contemplated.

The following management authorities are used by the state to protect property interests:

- Just Compensation Legislation
- Relocation Assistance Act
- Takings Analysis for New Rules
- Trespass Civil and Criminal Law
- Open Dumping of Garbage or Littering

## **2. Boundary**

The Indiana coastal zone, referred to as the Coastal Program Area, includes both an inland and lakeward boundary. The lakeward boundary is the jurisdictional borders within Lake Michigan that Indiana shares with Illinois and Michigan. The inland boundary includes those areas that drain into Indiana's portion of Lake Michigan to the state border with Illinois and the LaPorte County line. The inland coastal program boundary, which is described in Chapter 3 of Part II, includes all shorelands subject to erosion or flooding, estuarine areas and wetlands, and other areas the use of which may directly and significantly affect Lake Michigan waters. The inland extent of the boundary is based on the natural watershed boundary, the hydrologic divide. However, to create an inland boundary that is easily identifiable in practical landmarks, the watershed boundary was modified to define a program boundary based on the U.S. Public Land System, Township Sections and major roads.

The Coastal Program Area encompasses a total of approximately 604 square miles of land and approximately 241 square miles of Lake Michigan. It covers the northern portions of Lake, Porter, and LaPorte Counties. At its greatest extent, the inland boundary is approximately 17 miles from the Lake Michigan shoreline and at its narrowest extent; the inland boundary is less than 2 miles inland. It is located in the northern portions of Lake, Porter and LaPorte Counties along the southern shore of Lake Michigan.

## **3. Coastal Areas of Significance**

The LMCP recognizes areas that have unique qualities that either make them vulnerable or increase the competition for their use. These areas are defined as Coastal Areas of Significance. The LMCP provides for two designations of Coastal Areas of Significance: Areas of Particular Concern and Areas for Preservation and Restoration.

Areas of Particular Concern are broad groups of coastal areas that face similar challenges for which priorities can be identified. The LMCP discusses the primary challenges facing the areas, priority uses and activities for the areas, and criteria for their designation. The LMCP has designated the following general areas as Areas of Particular Concern: 1) areas of unique, scarce, fragile or vulnerable natural habitats; 2) areas of historical significance, cultural value, or substantial recreational value or opportunity; 3) areas of high natural productivity or essential habitat for living resources, including fish, wildlife, endangered species, and the various trophic levels in the food web critical to their well-being; 4) areas needed to protect, maintain, or replenish coastal lands or resources including coastal flood plains, aquifers

and their recharge areas, sand dunes, and offshore sand deposits; 5) areas where development and facilities are dependent upon the use of, or access to, coastal waters or areas of unique features for industrial or commercial uses or dredge spoil disposal; and 6) areas where if development were permitted, it might be subject to significant hazard due to storm, slides, floods, erosion, and settlement.

The second type of designation for Coastal Areas of Significance is as Areas for Preservation and Restoration (APR). These are specific sites that require protection and restoration for their conservation, ecological, or recreational values. APR designated sites are public or otherwise protected sites where the preservation and restoration of the area's values are or will be the dominant public policies. The APR designation helps guide resource managers to restore or preserve the specific ecological, or aesthetic values of these areas. These areas and a process for designation of significant areas are described in Chapter 8 of Part II.

#### **4. Indiana Coastal Grants Program**

The DNR is designated as the lead agency for administration of the LMCP, including the Coastal Grants Program. As a state participating in the federal Coastal Zone Management Program (CZMP), Indiana is eligible to annually receive funds from the National Oceanic & Atmospheric Administration (NOAA). Indiana determines what percentage of those funds will be used to administer the LMCP and what percentage will be available for competitive grants. Grants will be made to further the goals and objectives of the LMCP and assist in the implementation of the priorities and guidance developed annually through a public process. To accomplish this, the LMCP will host an annual public planning meeting to collect input on the next grant cycle's priorities and to identify emerging issues. The planning meeting will include agencies and organizations eligible to receive grants. The DNR will also form a stakeholders advisory group to provide input for the Coastal Grants Program. The stakeholders advisory group that will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region.

The purpose of the Indiana Coastal Grants Program is to preserve, protect, restore, and where possible, to develop the resources of the coast for this and succeeding generations and to achieve wise use of the land and water resources of the coastal region, giving full consideration to ecological, cultural, historic and esthetic values as well as to needs for economic development. The LMCP seeks out social, economic, and environmental solutions that balance use and protection of the coast's valuable, yet fragile, resources.

Applications will be reviewed by 'Technical Review Teams' which will comment on expertise-specific criteria including: the technical soundness of the proposal in terms of design and cost-effectiveness; the appropriateness of the budget request; and the qualifications and ability of the applicant to manage and implement the proposal, carry out the tasks, and deliver the products. All eligible applications to the LMCP for 306(A) projects will undergo environmental review by the DNR. Environmental review includes evaluation by the Divisions of Fish and Wildlife, Nature Preserves, Water, and Historic Preservation and Archaeology for potential adverse effects to fish, wildlife, botanical resources, rare natural communities, fish and wildlife habitat, publicly managed properties, state permit requirements, and historic and archaeological resources. Environmental review will also include an endangered species review to identify if there is a need for additional coordination with any federal entities or for consultation under the federal Endangered Species Act. The Director of the DNR or designee will conduct final selection of applications for the state. The LMCP will administer the approved grants, receive financial and progress reports from applicants, and provide technical assistance and review throughout the project.

Funds available for the Coastal Grants Program will be based on both state and federal funds made available that year for the LMCP. Three categories were created to group similar grant projects and provide a fair distribution across project types: Coastal Natural Resources Protection and Restoration; Coastal Community Enhancement and Sustainability; and Emerging Issues.

Coastal grants may be allocated to a state agency, local government agency, area-wide agency, regional agency, interstate agency, and with certain restrictions, to a non-profit organization. The State is responsible for ensuring that the funds are applied in furtherance of the State's approved coastal program.

## **5. Other Special Planning Requirements of the CZMA**

The CZMA requires that states specifically address the issue of shoreline erosion, shorefront access, and energy facility siting as part of program development. The LMCP responses to these requirements are found in Chapters 9, 10, and 13 of Part II.

## **B. CHANGES THE PROGRAM WILL MAKE**

Existing state authorities will be used to implement and enforce the Indiana Lake Michigan Coastal Program (LMCP). The Program will result in changes in the way coastal resources are managed in the state by improving coordination and consistency of all state actions which could affect coastal resources, by providing procedures to resolve conflicts between state agencies and their programs, and by enhancing implementation of core programs addressing hazards, wetlands, and access.

Indiana's objective in developing a coastal program is to establish a comprehensive, coordinated approach for the protection, preservation and orderly development of the state's coastal resources. The Indiana LMCP will perform the following: administer the Coastal Grants Program, complete consistency reviews, and seek opportunities to develop partnerships among federal, state, and local programs. Examples of general tasks performed by the LMCP include program administration, federal consistency review, grant administration, LMCP review and evaluation, networking with state and local agencies, and outreach and education. Specific management activities, including the operation of Indiana's core regulatory programs, are conducted by a variety of individual agencies.

The DNR Division of Soil Conservation is the lead entity for reviewing state and federal agency actions to ensure consistency with the LMCP. Chapter 4 of Part II of the document describes the procedures that the Division of Soil Conservation will use to implement state consistency requirements. These procedures include the Indiana Environmental Protection Act and Memoranda of Understanding (MOU) between DNR, IDEM, State Emergency Management Agency, the Natural Resources Commission, and the Office of Environmental Adjudication. These MOUs provide for specific methods of conflict resolution for disagreements between agencies. The MOUs can be found in Appendix D. In addition, section 307 of the CZMA requires that federal agency actions be consistent with the LMCP, once it is approved by OCRM. Chapter 11 of Part II describes how Indiana will implement the federal consistency provisions of the CZMA.

The CZMA provides incentives and a national direction to assist states in addressing coastal issues and problems. The following are the principal anticipated effects of federal program approval:

- Federal section 306 grants estimated to total approximately \$900,000 annually will be made to Indiana to assist in program implementation activities by the state and local entities; and

- State implementation of the federal consistency provisions of the CZMA to ensure that federal activities, federally licensed and permitted activities, and federal assistance to state and local governments are consistent with the LMCP.

A more detailed description of the effects of federal approval of the LMCP is provided in Part III of this document.

## **C. THE FEDERAL COASTAL ZONE MANAGEMENT ACT**

In response to intense pressure on coastal resources, and because of the importance of coastal areas of the United States, Congress passed the Coastal Zone Management Act of 1972 as amended [CZMA], (16 USC 1451). The program is administered by the Secretary of Commerce, who in turn has delegated this responsibility to the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management (OCRM). The Act authorizes a federal program to encourage coastal states and territories to develop comprehensive coastal programs. Currently, 33 states and territories have coastal programs approved by the Assistant Administrator of the National Ocean Service.

The CZMA affirms the national interest in the effective protection and careful development of the coastal zone by providing assistance and encouragement to coastal states to voluntarily develop and implement coastal programs for their coastal areas. The CZMA authorizes financial assistance grants under section 305 for program development and section 306 for program implementation to provide coastal states and territories with the means for achieving these objectives. The Section 305 program development section was re-authorized by Congress in the 1990 amendments to the CZMA (PL 101-508, November 5, 1990). OCRM awarded the Indiana DNR a section 305 grant of \$166,000 on October 1, 1993, \$200,000 on October 1, 1994, \$200,000 on July 1, 1997 and \$200,000 in July 1999 to develop the LMCP and conduct public participation activities during program development and review.

Sections 305, 306, and 307 of the CZMA and implementing regulations published on March 28, 1979 (44 CFR Part 18595) as codified at 15 CFR Part 923, provide the requirements and procedures for state coastal program development and federal approval. In summary, the requirements for program approval are that a state develop a coastal program that among other things:

1. Identifies and evaluates those coastal resources recognized in the Act that require management or protection by the state or territorial government;
2. Re-examines existing policies or develops new policies to manage these resources. These policies must be specific, comprehensive, and enforceable, and must provide an adequate degree of predictability as to how coastal resources will be managed;
3. Determines specific uses and special geographic areas that are to be subject to the coastal program, based on the nature of identified coastal concerns. Uses and areas subject to management should be based on resource capability and suitability analyses and socio-economic considerations;
4. Identifies the inland and seaward areas subject to the coastal program;
5. Provides for consideration of the national interest in planning for the siting of facilities; and

6. Includes sufficient legal authorities and organizational structure to implement the program and to ensure conformance to it.

In arriving at these substantive aspects of the coastal program, states are obligated to follow an open process which involves providing information to and considering the interests of the general public, interest groups, local governments, and regional, state, interstate, and federal agencies.

Section 303 of the CZMA provides guidance on specific national objectives that warrant full consideration during the implementation of approved state coastal programs.

Section 305 of the CZMA as amended by PL 101-508 in 1990 and subsequent appropriations language authorized annual grants to states desiring to develop a coastal program.

After its coastal program receives federal approval, the state is then eligible for annual grants under section 306 to implement its coastal program. Section 306A of the CZMA also provides that states may use a portion of their section 306 awards for low cost construction projects that result in the preservation of important natural areas, improved public access, or renewal of urban waterfronts.

Section 307 contains the federal consistency provisions of the CZMA to ensure that federal actions are consistent with the state's federally approved coastal program. Paragraphs (1) and (2) of section 307(c) require that federal activities and development projects in or directly affecting the coastal zone be consistent to the maximum extent practicable with a federally approved state coastal program. Subparagraphs (A) and (B) of section 307(c) require that federally licensed and permitted activities affecting the coastal zone also are consistent with the federally approved state program. Section 307(d) requires federal assistance to state and local governments for projects affecting the coastal zone to be consistent with federally approved state coastal programs. Federal regulations implementing section 307 are found at 15 C.F.R. Part 930.

Section 309, as amended by PL 101-508 in 1990, establishes a coastal enhancement grant program. This section provides that a portion of section 306 funds is available to states to develop program changes, which strengthen their CZM program's ability to address particular coastal issues. State efforts to seek such improvements are meant to focus on priorities based on a self-assessment of the nine objectives listed in section 309. These objectives include, among others, stronger wetland protection, improved management of coastal hazards and additional public access.

Section 312 directs the Secretary to evaluate the performance of state coastal programs on a continuing basis. OCRM formally reviews the implementation of each state program on a three-year cycle.

Section 315 establishes a National Estuarine Research Reserve System to preserve a representative series of representative estuarine areas for long-term scientific and educational purposes.

The Coastal Zone Reauthorization Amendments of 1990 (CZARA) established a new Coastal Nonpoint Pollution Control Program (CNPC), in addition to updating the CZMA. The State of Indiana has agreed to submit a complete 6217 program within 30 months of program approval (See Chapter 14). After Indiana submits its coastal nonpoint program, NOAA and U.S. Environmental Protection Agency (EPA) will make a final determination regarding its compliance with section 6217.

## D. CROSS REFERENCE TO PROGRAM REQUIREMENTS

<b>CZMA Section</b>	<b>Requirement</b>	<b>CZMA Approval Regulations</b>	<b>Program Document</b>
306 (d)(1)	Indiana's Lake Michigan Coastal Program contains policies to adequately manage all uses with direct and significant impacts on coastal waters and ensure protection of those resources and areas that make the Indiana coast a unique, vulnerable or valuable area.	15 C.F.R. §923.3	Chapter 5
306(d)(1)	Indiana's Lake Michigan Coastal Program was developed after notice and with the opportunity for full participation by federal agencies, state agencies, local governments, regional organizations, port authorities, and other interested parties and individuals, public and private.	15 C.F.R. §923.3	Chapters 6 and 15 Appendices E and F, Part V
306(d)(2)(A)	Indiana's Lake Michigan Coastal Program includes sufficient inland, seaward, and interstate boundaries.	15 C.F.R. §923.31-923.34	Chapter 3 Appendix C
306(d)(2)(B)	Indiana's Lake Michigan Coastal Program identifies the land and water uses subject to the management program.	15 C.F.R. §923.11	Chapter 5
306(d)(2)(C)	Indiana's Lake Michigan Coastal Program designates Areas of Particular Concern.	15 C.F.R. §923.21-23	Chapter 8
306(d)(2)(D)	Indiana's Lake Michigan Coastal Program identifies the means by which the state will exert control over the defined land and water uses.	15 C.F.R. §923.40-43	Chapter 4 and 5
306(d)(2)(E)	Indiana's Lake Michigan Coastal Program contains broad guidelines on priorities of uses in particular areas, including those uses of lowest priority.	15 C.F.R. §923.21	Chapter 5 and 8
306(d)(2)(F)	Indiana's Lake Michigan Coastal Program includes a description of the organizational structure proposed to implement the program, including the responsibilities and interrelationships of local, area wide, state, regional, and interstate agencies in the management process.	15 C.F.R. §923.46	Chapter 4



<b>CZMA Section</b>	<b>Requirement</b>	<b>CZMA Approval Regulations</b>	<b>Program Document</b>
306(d)(2)(G)	Indiana's Lake Michigan Coastal Program includes a definition of the term beach, and a planning process for the protection of, and provision of access to, public beaches and other public coastal areas.	15 C.F.R. §923.24	Chapter 9
306(d)(2)(H)	Indiana's Lake Michigan Coastal Program includes a planning process for energy facilities likely to be located in, or which may significantly affect, the coastal zone, including a process for anticipating the management of the impacts from such facilities.	15 C.F.R. §923.13	Chapter 13
306(d)(2)(I)	Indiana's Lake Michigan Coastal Program includes a planning process for assessing the effects of, and studying and evaluating ways to manage the impacts of, shoreline erosion and for restoring areas adversely affected by such erosion.	15 C.F.R. §923.25	Chapter 10
306(d)(3)(A)	The state has coordinated Indiana's Lake Michigan Coastal Program with local, area wide, and interstate plans applicable to areas within the coastal zone existing before 1/1/2001.	15 C.F.R. §923.56	Chapter 6
306(d)(3)(B)	The state has established an effective mechanism for continuing consultation and coordination between the lead agency and local governments, interstate agencies, regional agencies, and area wide agencies within the coastal boundary.	15 C.F.R. §923.57	Chapters 4, 6, and 7
306(d)(4)	The state has held adequate public hearings during the development of Indiana's Lake Michigan Coastal Program.	15 C.F.R. §923.58	Chapters 6 and 15
306(d)(5)	The Governor has reviewed and approved the Indiana's Lake Michigan Coastal Program and certifies that it contains adequate authorities.	15 C.F.R. §923.48	Gubernatorial Letter, Part II
306(d)(6)	The Governor has designated a lead coastal agency.	15 C.F.R. §923.47	Gubernatorial Letter, Part II
306(d)(7)	The state is organized to implement Indiana's Lake Michigan Coastal Program.	15 C.F.R. §923.46	Chapter 4

<b>CZMA Section</b>	<b>Requirement</b>	<b>CZMA Approval Regulations</b>	<b>Program Document</b>
306(d)(8)	Indiana's Lake Michigan Coastal Program provides for adequate consideration of the national interest.	15 C.F.R. §923.52	Chapters 12 and 13
306(d)(9)	Indiana's Lake Michigan Coastal Program includes a program by which specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological, historical, or aesthetic values.	15 C.F.R. §923.22	Chapter 8
306(d)(10)(A) and (B)	The state has authority for the management of the coastal zone in accordance with Indiana's Lake Michigan Coastal Program, including the power to: a) administer land use and water use regulations to control development to ensure compliance with Indiana's Lake Michigan Coastal Program; b) resolve conflicts among competing uses; and c) acquire fee simple and less than fee simple interests in land, waters, and other property through condemnation or other means, if necessary.	15 C.F.R. §923.41	Chapters 4 and 5
306(d)(11)	Indiana's Lake Michigan Coastal Program uses any or a combination of the following techniques for control of land uses and water uses within the coastal zone: a) state establishment of criteria and standards for local implementation, b) direct state land and water use planning and regulation; and/or c) state administrative review of development plans, projects, or land and water use regulations.	15 C.F.R. §923.41-923.44	Chapter 5
306(d)(12)	Indiana's Lake Michigan Coastal Program ensures that local land use and water use regulations within the coastal boundary do not unreasonably restrict or exclude land uses and water uses of regional benefit.	15 C.F.R. §923.12	Chapter 12

<b>CZMA Section</b>	<b>Requirement</b>	<b>CZMA Approval Regulations</b>	<b>Program Document</b>
306(d)(13)	Indiana's Lake Michigan Coastal Program provides for an inventory and designation of areas that contain one or more coastal resources of national significance and specific and enforceable standards to protect such resources.	No regulations	Chapters 5 and 12
306(d)(14)	Indiana's Lake Michigan Coastal Program provides for public participation in permitting processes, consistency determinations, and other similar decisions.	No regulations	Chapter 5, 7, 8, 11, and 13
306(d)(15)	Indiana's Lake Michigan Coastal Program ensures that all state agencies will adhere to the program.	No Regulations	Chapter 4 and Appendix D
306(d)(16)	Indiana's Lake Michigan Coastal Program contains enforceable policies and mechanisms to implement applicable requirements of the 6217(g).	Guidance on Coastal Nonpoint Source Program issued January 1993.	Chapter 14
307(b)	Consideration of federal agency views	15 C.F.R. §923.51	Appendix E and Chapter 15
307( c ) & (d)	Federal consistency procedures	15 C.F.R. §923.53	Chapter 11
307(f)	Incorporation of federal air and water quality standards	15 C.F.R. §923.45	Chapter 5

## **PART II: Lake Michigan Coastal Program Document**

## **Letter From Governor O'Bannon**



**OFFICE OF THE GOVERNOR**

INDIANAPOLIS, INDIANA 46204-2797

**FRANK O'BANNON**  
GOVERNOR

April 23, 2002

Admiral Conrad C. Lautenbacher, Jr.  
Under Secretary for Oceans and Atmosphere  
and Administrator  
National Oceanic and Atmospheric Administration  
HCHB Room 5128  
14<sup>th</sup> and Constitution Avenue  
Washington, D. C. 20230

Dear Admiral Lautenbacher:

It is with great pleasure that I submit the Indiana Lake Michigan Coastal Program to the National Oceanic and Atmospheric Administration for approval. The State of Indiana looks forward to joining the Coastal Zone Management Program and its network of coastal states and territories. The LMCP will enhance the state's role in planning for and managing natural and cultural resources in the coastal region and will support partnerships between federal, state, and local agencies and organizations.

I have reviewed and approve implementation of the Indiana Lake Michigan Coastal Program, as presented herein. I have also determined that the State of Indiana has the authority and the organizational capability to implement the Lake Michigan Coastal Program. The Indiana Department of Natural Resources is designated as the lead state agency to implement the coastal program and to receive and administer grants under the Coastal Zone Management Act.

This new partnership with the Coastal Zone Management Program renews Indiana's commitment to conserve, restore, and wisely manage Indiana's Lake Michigan resources. If you need any further assistance during the review period, please contact John Goss, Director of the Department of Natural Resources, at (317) 232-5918.

Sincerely,

*Frank O'Bannon*

Frank O'Bannon

FOB/BAC/nlm

## Chapter 1: Indiana Lake Michigan Coastal Program Overview

The purpose of the Indiana Lake Michigan Coastal Program (LMCP) is to enhance the State's role in planning for and managing natural and cultural resources in the coastal region and to support partnerships between federal, state and local government agencies and organizations. The LMCP relies upon existing laws and programs as the basis for achieving its purpose.

The Indiana Department of Natural Resources (DNR) will be the lead agency to implement the LMCP. Within the DNR, the LMCP is located within the Division of Soil Conservation. The LMCP will support activities that achieve the following goals in the coastal region:

- Protect and restore significant natural resources;
- Prevent the loss of life and property in coastal hazard areas;
- Improve public access for recreational purposes;
- Protect and restore important historic and cultural resources;
- Improve government coordination and policy and decision making;
- Prevent, reduce, or remediate nonpoint source pollution that affects coastal waters;
- Revitalize urban waterfronts and ports; and
- Provide for priority water dependent uses.

These goals will be achieved through a cooperative partnership with the federal Coastal Zone Management Program (CZMP). The Coastal Zone Management Act of 1972 was enacted by Congress to create a voluntary partnership between federal, state, and local governments. The national program seeks to sustain coastal ecosystems, sustain coastal communities, and improve government efficiency. By forming a cooperative partnership with the CZMP, Indiana will benefit in the following ways:

*Financial assistance-* approximately \$900,000 per year will be allocated to implement the LMCP. In addition, Indiana will qualify to apply for additional funds available through the CZMP, including the Coastal Zone Enhancement Awards as described in Chapter 7.

*Technical assistance-* training and workshops coordinated with other state, federal and local agencies and organizations to address common coastal issues; data and research information needs would become available to Indiana.

*Federal consistency-* Indiana would be able to require that the actions of federal agencies in the coastal zone be consistent with the LMCP document.

*Participation in a network of coastal professionals-* Indiana would be able to participate in the many programs that seek to address common problems for coastal states. Shoreline, stream bank, and bluff erosion, aquatic nuisance species, harbor development and dredging issues, permit simplification processes, data sharing, public participation processes, and the use of technology are issues where programs have shared their expertise through the CZMP.

This document includes information about how Indiana meets the requirements established by the Coastal Zone Management Act utilizing a network approach of existing state laws and programs that are implemented by a number of different governmental agencies. The LMCP is a new tool to implement existing programs and to provide funding for unique or under-funded projects.

## **Major Components of the LMCP**

### **Based on Existing Policies and Laws**

The LMCP was developed on the strength of Indiana's existing policies and laws that address land and water uses and resource protection. The LMCP document serves as a comprehensive reference that identifies entities that carry out existing programs, policies, and laws to manage coastal resources. The program document also serves as a reference for the identification of partnership and coordination opportunities. By utilizing the combined resources of federal, state, and local governments and organizations, the need for sustainability and balance between resource protection and economic growth can be addressed. Through an extensive public process, 10 issue-areas were identified. Indiana's existing policies and laws were detailed for each of these areas in Chapter 5 of the program document.

- Procedural Framework
- Coastal Hazards
- Water Quality
- Water Quantity
- Natural Areas, Fisheries, Wildlife, and Native and Exotic Species
- Recreation, Access, and Cultural Resources
- Economic Development
- Pollution Prevention, Recycling, Reuse, and Waste Management
- Air Quality
- Property Rights

### **Indiana Lake Michigan Coastal Grants Program**

By establishing a cooperative partnership with the CZMP, the LMCP will be able to administer a grants program that seeks out opportunities to work with state and local agencies and other organizations to accomplish its goals. The Coastal Grants Program will also facilitate a process in which the public can participate in the identification of priorities for the coastal region.

The Coastal Grants Program will make funding available through an annual competitive grants process. The LMCP will hold annual planning meetings to collect input on each year's priorities and to identify emerging issues. The planning meeting will be open to agencies and organizations eligible to receive coastal grants. The DNR will also form a stakeholders advisory group to provide input for the Coastal Grants Program. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region.

The Coastal Grants Program is organized into three categories:

- Coastal Natural Resources Protection and Restoration
- Coastal Community Enhancement and Sustainability
- Emerging Issues

Chapter 7 provides a detailed description of the Coastal Grants Program and other mechanisms associated with funding the implementation of the LMCP.



## **Coastal Program Area**

The Coastal Program Area defines the lands and waters eligible for financial and technical assistance through the LMCP. Based on public participation and comment, the proposed program boundary was established to approximate the region's watershed. The watershed encompasses a majority of the area that drains into Indiana's portion of Lake Michigan through its rivers, streams, ditches, wetlands, lakes, and groundwater. A watershed approach provides a comprehensive approach to planning for and managing natural resources that focuses on producing environmental results while incorporating the communities that depend on those natural resources. A watershed approach can also leverage financial and other resources, improve coordination among intergovernmental jurisdictions, and reduce duplication of efforts and conflicting actions.

The program boundary is located in the northern portion of Lake, Porter, and LaPorte counties and extends into the Lake to the jurisdictional border with Illinois and Michigan. It excludes lands owned, leased, or held in trust for the federal government. At its widest extent, the boundary extends away from the shoreline 17 miles to the Crown Point area and at its narrowest point, less than 2 miles, just north of Hudson Lake in LaPorte County. The boundary follows the 45-mile shoreline and the approximately 54 miles along an east-west trajectory across the Valparaiso Moraine.

Cities and towns in the Coastal Program Area include:

- |                |                |                   |
|----------------|----------------|-------------------|
| • Whiting      | • Crown Point  | • Portage         |
| • East Chicago | • Merrillville | • Valparaiso      |
| • Hammond      | • Lake Station | • Chesterton      |
| • Gary         | • New Chicago  | • Beverly Shores  |
| • Highland     | • Hobart       | • Town of Pines   |
| • Munster      | • Ogden Dunes  | • Michigan City   |
| • Dyer         | • Dune Acres   | • Long Beach      |
| • Schererville | • Burns Harbor | • Michiana Shores |
| • Griffith     | • Porter       | • Trail Creek     |

\*Please refer to the detailed description of the Coastal Program Area in Appendix C to determine if a particular area is included.

Included within the boundary are lands subject to lake flooding and erosion, estuaries and wetlands, ecologically significant areas formed by glacial Lake Michigan, coastal recreation areas, and areas of cultural and historic significance to the region. A detailed description of the Coastal Program Area can be found in Chapter 3 and in Appendix C.

## **Coastal Program Network**

There are numerous state and local entities that are responsible for managing resources in the coastal region. The role of these entities will remain unchanged. The LMCP sets forth a framework, based on existing policies, laws, and programs, that links existing agencies and laws into a comprehensive system. Through networking among members, state and local perspectives on the management of coastal resources can be integrated. The network will lead to improved coordination, clear establishment of priority issues, and a well-focused effort to meet those priorities.

### **Coastal Program Network Roles:**

*Local Governments* not only develop and enforce local ordinances, but also act as delegates for several state programs such as emergency response and floodplain management. Local governments are

also active in economic development and land use issues in their communities. Through the LMCP, local units of government will have an opportunity to obtain financial and technical assistance to develop and implement inventories, plans, and community projects.

*State Agencies* implement a wide range of programs related to the management of coastal resources. Through the LMCP document, the roles of major state agencies, existing policies and laws under their responsibility, and provisions for public participation in State decision making are detailed. The program document can therefore aid in the identification of state agencies that address various management issues. Additionally, coordination, simplification, and streamlining will be encouraged through the implementation of the LMCP.

*Federal Agencies* conduct many activities in the coastal region. By establishing a cooperative partnership with the CZMP, Indiana's priorities will be represented at the federal level. Federal agencies will be able to work directly with the Coastal Program Network to reduce duplication of effort, improve coordination of projects, and to better understand priorities developed by the network.

### **Federal Consistency**

Federal actions are usually exempt from state laws and regulations. Once Indiana's LMCP is approved by the CZMP, federal actions which affect coastal resources must be conducted consistently to the maximum extent practicably with the existing state laws detailed in the program document. Actions of federal agencies subject to federal consistency include direct activities, federal licenses, permits, or other required federal approvals to non-federal applicants, and financial assistance programs. Federal consistency encourages early coordination and participation on federal actions that affect the Coastal Program Area. A detailed description of Federal Consistency can be found in Chapter 11.

### **Coastal Areas of Significance**

Some coastal areas are particularly significant or have special conditions that warrant increased attention. These areas are distinguished by either their unique coastal-related qualities or the intense competition for use of their resources. The coastal region boasts many existing initiatives that identify and address significant areas. The LMCP will use the process of identifying Coastal Areas of Significance to seek out these existing initiatives and partnership opportunities. State agencies, local governments, organizations, and the general public can nominate coastal Areas of Significance.

Identification of Coastal Areas of Significance will bring heightened attention to the areas' special conditions. In most cases, sufficient management authorities and regulations are already in place. Therefore the solution is not to create additional agencies or regulations, but to focus and coalesce existing management efforts. To accomplish this, Coastal Areas of Significance will be prioritized within the Coastal Grants Program, will receive heightened attention toward improving interagency cooperation, technical assistance, and supporting research and local planning.

Chapter 8 describes Coastal Areas of Significance through two categories:

*Areas of Particular Concern (APC)*- are identified as broad groups of coastal areas that face similar problems for which priorities can be defined. These areas are significant for their ecological, recreational, historic, cultural, or economic values. The LMCP document describes the primary issues facing the area, guidelines on priority uses of these areas, and criteria for identification. The following are categories of APC:

- Areas of unique, scarce, fragile, or vulnerable natural habitats

- Areas of historical significance, cultural value, or substantial recreational value or opportunity
- Areas of high natural productivity or essential habitat for living resources, including fish, wildlife, endangered species, and the various trophic levels in the food web critical to their well-being
- Areas needed to protect, maintain, or replenish coastal lands or resources including coastal flood plains, aquifers and their recharge areas, sand dunes, and offshore sand deposits
- Areas where development and facilities are dependent upon the use of, or access to, coastal waters or areas of unique features for industrial or commercial uses or dredge spoil disposal
- Areas where if development were permitted, it might be subject to significant hazard due to storm, slides, floods, erosion, and settlement

*Areas for Preservation and Restoration (APR)*- are specific areas that require protection or restoration for their conservation, ecological, or recreational values. These are public or otherwise protected sites where the preservation and restoration of the area's unique values are or will become the dominant public policies. Although funds may also be used to acquire APR, Indiana remains sensitive to the potential impacts on local economies that might result.

### **Summary**

The LMCP represents the culmination of many years of effort by local, state, and federal agencies, with substantial participation and contribution by local citizens and stakeholder groups. It also represents a significant step in Indiana's efforts to develop a cooperative partnership under the Coastal Zone Management Act. However, this program document is a dynamic plan that will, even following approval by the Governor and CZMP, continue to be updated and modified to reflect the priorities of Indiana's coastal region. The LMCP will be regularly enhanced through continued public participation so that it can achieve its purpose to enhance the State's role in planning for and managing natural and cultural resources in the coastal region and to support partnerships between federal, state and local government agencies and organizations.

## Chapter 2: Indiana's Lake Michigan Coastal Region

### Physical Environment

#### Climate

Lake Michigan, the second largest of the Great Lakes, is the only Great Lake entirely within the United States. However, because of movement of fish between Lake Michigan and Lake Huron and of its discharge to Lake Huron, Lake Michigan is important internationally. Lake Michigan is 307 miles (494 km) in length and 118 miles (190 km) in width. With an average depth of 279 feet (85 m), Lake Michigan holds 1,180 cubic miles (4,920 cubic km) of water with a retention time of 99 years.<sup>1</sup> The temperate southern basin spans Illinois, Indiana, and Michigan and contains highly urbanized areas. Indiana borders 45 miles (72.5 kilometers) of Lake Michigan's southern basin. The southern basin is relatively smooth with a contour sloping to a maximum depth of approximately 558 feet (170 m).<sup>2</sup>

The presence of Lake Michigan alters the local climate in northwest Indiana. Although modifications of climate are most pronounced within a mile or two of the shore, several lake-effect features extend about 25 miles (15.5 km) inland.<sup>3</sup> The lake significantly influences the entire Lake Michigan region in Indiana.

Compared to areas of similar latitude, Northwest Indiana can experience warmer falls, cooler springs, higher humidity, increased fogs, winter cloudiness, and higher snow fall. The most critical factor producing these climate modifications is the slower change of the lake's surface water temperature relative to the change of the adjacent land's surface temperature. The normal annual ambient temperature averages 50° Fahrenheit (10° C). Normal seasonal temperature averages 49° Fahrenheit (9.5 C) in spring, 72° Fahrenheit in summer (22° C), 54° in autumn (12° C) and 27° in winter (-2.7 C).<sup>4</sup>

#### Geology and Soils

The geology and soils of the Lake Michigan drainage basin were created during the late Pleistocene and Holocene Epochs. "During the Pleistocene Epoch, the continental glaciers repeatedly advanced over the Great Lakes region from the north. The first glacier began to advance more than a million years ago. As they inched forward, the glaciers, up to 6,500 ft (2,000 m) thick, scoured the surface of the earth, leveled hills, and altered forever the previous ecosystem."<sup>5</sup> As the glaciers retreated, sand, silt, clay and boulders were deposited and large volumes of meltwater formed glacial lakes.

Malott (1922)<sup>6</sup> divided Indiana into nine physiographic regions according to topography and the effect of glaciers on the landscape. The Lake Michigan Region lies within the extreme northwestern part of the Northern Lake and Moraine Region and includes the northern part of the Valparaiso Morainal Area and the entire Calumet Lacustrine Plain.<sup>7</sup> During the late Wisconsin Age, ancestral Lake Michigan advanced

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<sup>1</sup> United States Environmental Protection Agency and Government of Canada, The Great Lakes An Environmental Atlas and Resource Book, (1995).

<sup>2</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, (1994).

<sup>3</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p.23 (1994).

<sup>4</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p.25 (1994).

<sup>5</sup> United States Environmental Protection Agency and Government of Canada, The Great Lakes An Environmental Atlas and Resource Book, p. 7 (1995).

<sup>6</sup> Malott, C. A., 1922, The physiography of Indiana, in Indiana Department of Conservation, Handbook of Indiana Geology: Division of Geology.

<sup>7</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 31 (1994).

across the coastal region. As the glacial ice retreated about 12,000 years ago, fluctuating lake levels in combination with wind and wave actions contributed to the formation of the physiography of the coastal area.

The Valparaiso Moraine is the oldest end moraine in the Lake Michigan Region. As ancestral Lake Michigan advanced across the region, the Valparaiso Moraine formed along the limits of the glacial ice. The crest of the moraine forms most of the drainage divide between the Kankakee River Basin to the south and the Lake Michigan Region to the north.<sup>8</sup>

The Calumet Lacustrine Plain lies between the Valparaiso Morainal Area and Lake Michigan. The plain ranges in elevation from about 580 feet (177 m) at the present shoreline to as much as 760 feet (232 m) above mean sea level (m.s.l.) at dune-capped beach ridges.<sup>9</sup> The Indiana Dunes National Lakeshore and the Indiana Dunes State Park in northern Porter County, areas where the physiography is relatively unaltered, served as research sites where data was collected on the major physiographic features in the Calumet Lacustrine Plain.

The Calumet Lacustrine Plain consists of a topography referred to as ridge and swale; this topography is characterized as relict dune-capped beach ridges separated by extensive interr ridge marshes. Three relict beach ridges mark semi-stable shorelines of ancestral Lake Michigan during its late Pleistocene and Holocene history.<sup>10</sup> The Glenwood Beach, Calumet Beach and Toleston Beach occur within the Calumet Lacustrine Plain.

The Glenwood Beach is a relict beach that occurs on the lakeward side of the Valparaiso Moraine. Although the beach complex is a discontinuous ridge, Glenwood Beach is the highest dune and beach complex in the Lake Michigan region. The crest of the dune and beach complex has an average elevation of about 650 feet (198 m) above m.s.l.<sup>11</sup>

The Calumet Beach is adjacent to the Glenwood Beach, on its lakeward side. However, it truncates Glenwood Beach near the town of Tremont in Porter County. Dune-capped areas of the Calumet Beach have an average elevation of about 630 feet (192 m) above m.s.l. and the foreshore deposits have an average elevation of 607 feet (185 m) above m.s.l. Calumet Beach deposits consist of dune sediments overlying beach and nearshore sediments.<sup>12</sup>

Closest to Lake Michigan and therefore the youngest dune and beach complex is the Toleston Beach. The landward part of this complex consists of linear ridges of fused cone-shaped or parabolic dunes separated by interdunal wetlands, and the lakeward portion is comprised of large dome-shaped and small parabolic dunes, as well as over 150 beach ridges in its western part. Elevations at the top of large domal dunes are as much as 750 feet (229 m) above m.s.l. Foreshore, upper shoreface and back-barrier lacustrine deposits occur in the internal core of the complex. The top of the foreshore sequence of the Toleston Beach ranges from 597 to 603 feet (182 m to 184 m) above m.s.l. Modification of the Toleston Beach is still occurring in the eastern part of the region because of the reorientation of dominant wind direction across Lake Michigan.<sup>13</sup>

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<sup>8</sup> Id.

<sup>9</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 32 (1994).

<sup>10</sup> Id.

<sup>11</sup> Id.

<sup>12</sup> Id.

<sup>13</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 35 (1994).

Today, the lakebed of southern Lake Michigan begins at the shoreline with sand. Gravel occurs from 50 to 100 feet deep and in the deep parts of the lake, mud predominates.<sup>14</sup> The Calumet Lacustrine Plain has many wetlands that occur in the swales between beach ridges. In addition to wetlands formed due to a gentle relief, wetlands formed in wide floodplains and as temporary ponds.

## **Hydrologic Resources and Changes in the Lake Michigan Basin in Indiana**

### **Lakes**

Many fresh water lakes lie within the Lake Michigan region. Lakes were formed through depressions carved by the glaciers, buried glacial ice, inter-ridge swale depressions, isolation of old river channels that became oxbow lakes, and artificially created pits and impoundments. The two largest artificial impoundments in the coastal region are Lake George in Hobart and Lake Louise in west Central Porter County. "An unknown number of lakes in the region have been totally destroyed or greatly diminished in size by drainage or infilling."<sup>15</sup> Three lakes were known to exist at the western edge of the Calumet lacustrine plain, Wolf, George, and Berry Lakes.

Only Wolf Lake remains primarily intact today. Wolf Lake once flowed north into Lake Michigan. Many early accounts of the lake prior to extensive settlement describe a haven of wildlife and natural beauty.<sup>16</sup> Wolf Lake today consists of seven interconnected, artificially divided basins with their center along the Indiana-Illinois state line. The lake has a surface area of approximately 385 acres and a maximum depth of approximately eight feet. The City of Hammond owns the majority of Indiana's Wolf Lake shoreline, which supports a city beach and park. Also in Hammond is George Lake. Once a much larger lake, George Lake is now a 78-acre shallow lake, having a maximum depth of approximately 12 feet.

An important oxbow lake is located at Kennedy Park in Hammond. This lake was formally part of the Little Calumet River and formed when a loop of the river was levied and excavated. The levee separated the lake from the river and a small culvert connects both bodies of water at normal water levels. Lagoons were also formed by modification of the Grand Calumet River. Marquette Park Lagoons, once the mouth of the Grant Calumet River, is a 25.6-acre lake partially owned by the City of Gary and by the Indiana Dunes National Lakeshore. Marquette Park Lagoons are divided into two basins. The western lagoon is located partially on U.S. Steel property. This lagoon is connected to Marquette Park by a shallow channel.

Impoundments have been created at Lake George in Hobart and Lake Louise near Valparaiso. Lake George is an impoundment of the Deep River originally created to power a gristmill. It is the largest lake in the region with a surface area of approximately 270 acres. Lake Louise is the second largest lake with a surface area of 228 acres. It was created by an impoundment of Salt Creek and is privately owned.

Two borrow pit lakes were created by the construction of the interstate system. Grand Boulevard Park Lake at Lake Station is 40 acres and has a maximum depth of eight feet. This is now a city park with a beach and boat ramp. Rosser Park Lake is a 40-acre lake with a maximum depth of 26 feet. The lake is located at the junction of I-80/94 and I-65.

Several inter-ridge lakes still exist in the Coastal region. Watershed drainage alterations and natural succession has altered the structure of these lakes and reduced their extent considerably. Near the Porter and LaPorte county line are Long Lake, Mud Lake, Blag Slough, and Little Lake. Long Lake was the

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<sup>14</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 45 (1994).

<sup>15</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 72 (1994).

<sup>16</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 72 (1994).

largest of the interdunal lakes. Early surveyors described Long Lake as more than three miles long, almost five miles if one includes the marshes extending from its eastern end.<sup>17</sup> Mud Lake is the second largest of the interdunal lakes. Just a few miles east of Long Lake, it was drained and filled for industrial construction. Early surveys indicate that Mud Lake may have once covered 160 acres. Blag Slough and Little Lake were drained for development of the Town of Dune Acres. They have returned to open water as a result of ground-water level changes associated with development of a nearby dike and fly ash ponds.<sup>18</sup>

Additional lakes can be found throughout the coastal region. Many are scattered along floodplains and some have begun to undergo eutrophication. This is a process in which open water is gradually filled by sedimentation and plant growth. Some of these lakes are now classified as wetland marshes or palustrine wetlands.

## **Wetlands**

"Wetlands are a major hydrologic feature of the Lake Michigan Region. In general terms, wetlands occur where the ground water table is usually at or near the ground surface, or where the land is at least periodically covered by shallow water."<sup>19</sup> Based on a 1981 inventory by the U.S. Fish and Wildlife Service, the region contains about 7,242 wetlands covering a total of approximately 65 to 68 square miles or rough 11% of the total land area.<sup>20</sup> There are three categories of wetlands in Indiana that are described by the U.S. Fish and Wildlife Service: Lacustrine, Riverine, and Palustrine. Lacustrine wetlands are permanently flooded lakes; Riverine wetlands are contained within a channel that carries flowing water; and Palustrine wetlands are found in areas that support shallow water for a portion of the growing season.

Based on inventory data palustrine wetlands constitute about 98% of the region's wetlands and about 92% of the total wetland area. Examples of palustrine wetlands include marshes, swamps, bogs, sloughs, and fens. Palustrine wetlands characterized by forest vegetation and those characterized by emergent vegetation, such as cattails, together constitute 59% of the wetlands and 76% of the wetland area.

About 50% of the region's wetlands are either seasonally flooded or temporarily flooded. These wetlands serve important roles in the watershed, but can be difficult to identify when they are not flooded. The region also supports several small wetlands. "About 40% of the region's individual wetlands are one acre or smaller; 48% are between one acre and 10 acres; 10% are between 10 acres and 40 acres; and 2 percent are greater than 40 acres."<sup>21</sup>

As settlement began in the Lake Michigan area, wetlands were generally considered wastelands, undesirable for farming and development. The marshland areas were primarily used for food from the plants and small animals found there. In 1850, Congress gave the "swamp lands" of the country to the individual states in which they were located. The swamplands were to be sold and the money used to drain and "reclaim" the lands. Swampland in the Calumet region sold for an average of \$1.25 per acre.<sup>22</sup>

Between the Calumet Beach Ridge (a narrow area just south of the west arm of the Little Calumet River) and the Lake Michigan dunes, a vast wetland referred to as the Great Marsh existed. Wetlands dotted other areas of the dunes and further inland; however, none were as continuous as the wetland north of the Calumet Beach Ridge. From Michigan City west through the Indiana Dunes National Lakeshore was the

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<sup>17</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 74 (1994).

<sup>18</sup> Id.

<sup>19</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 64 (1994).

<sup>20</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 64 (1994).

<sup>21</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 68 (1994).

<sup>22</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 60 (1994).

Great Marsh, which averaged half a mile in width. The Great Marsh was centered on Dunes Creek, which flowed to Lake Michigan between the dunes. To the west of the Great Marsh, the wetland narrowed to approximately one-quarter mile. Further west, the wetland broadened again to encompass the lower meanders of the Little Calumet River. The enormous wetland complex evolved as back waters of Dunes Creek and the Calumet Rivers, and as lagoons that were left standing after Lake Michigan finally retreated to its present lake level.<sup>23</sup>

Portions of the Great Marsh still exist at its eastern-most points. A remaining example of the pockets of wetlands among the dunes may be found behind the foredunes on present-day West Beach near Ogden Dunes. There were also parallel beach ridges with intervening swales, which contained classic interdunal wetlands such as the ones found in Miller Woods at Gary.<sup>24</sup>

## **Rivers and Streams**

The surface waters of the Lake Michigan coastal area include: Lake Michigan; the Little Calumet River, Grand Calumet River, Turkey Creek, Deep River, Salt Creek, Coffee Creek, Dunes Creek, Trail Creek, and the Galena River; several smaller tributaries and man-made ditches; many natural and man-made lakes; ponds and man-made excavations; and scattered remnants of marshes, swamps, and other wetlands.<sup>25</sup> The present hydrology of the Lake Michigan coastal area in Indiana is significantly changed from what existed before development. The industrialization and urbanization that began in northwest Indiana during the late nineteenth century extensively altered the natural landscape and natural drainage patterns.

The Grand Calumet River and the Little Calumet River have undergone extensive changes by both man and nature. At one time, these two rivers were a single waterway that followed a hairpin course. The source was in LaPorte County near its western boundary. The river flowed west through Porter and Lake Counties into Illinois. In Illinois the river flowed toward the northwest and then sharply curved to the northeast and re-entered Lake County. The river finally emptied into Lake Michigan at what is now Marquette Park in Gary.

A second waterway formed in early 1800 when Native Americans opened a new channel to Lake Michigan in Illinois. Canoes were pushed and pulled through the marshes between Wolf Lake and Lake Calumet until a permanent channel was opened to Lake Michigan about twelve miles south of the Chicago River. The southern river, flowing west across the Calumet region and discharging into the Lake from Illinois became the Little Calumet River. The northern river, flowing east and discharging into Lake Michigan in Indiana became the Grand Calumet River.

The mouth of the river in Illinois was cleared in 1870 for the development of Calumet Harbor. By 1872 the mouth of the river in Indiana was so clogged with aquatic vegetation and sand that it no longer could empty into the Lake. A map made by the US Topographic Bureau in 1845 showed that the Grand Calumet River no longer flowed into Lake Michigan in Indiana. Instead, the current had been reversed and its waters flowed with the Little Calumet in Illinois.<sup>26</sup> The present outlet for the Grand Calumet River in Indiana was created in the 1900s when the Indiana Harbor and Ship Canal was constructed.<sup>27</sup>

The Lake Michigan watershed was further modified when Hart Ditch was constructed from the town of Dyer to a site near Munster in 1850 to improve local drainage. The watershed of Hart Ditch was enlarged

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<sup>23</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 59 (1994).

<sup>24</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 60 (1994).

<sup>25</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 59 (1994).

<sup>26</sup> Moore, P. The Calumet Region: Indiana's Last Frontier, p. 11 (1959).

<sup>27</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 61 (1994).



when Cady Marsh and Spring Street Ditches were created to drain areas where Highland, Griffith and Schererville are now located. In 1908, Randall Burns of Chicago launched an effort to ‘reclaim’ the land. The high sands of the Tolleston Beach and the dunes separating Cady marsh and Lake Michigan were cut. The flow of the Little Calumet River and the Deep River, which joins the Little Calumet, were diverted into the lake just east of Ogden Dunes. The Little Calumet River was also dredged to the mouth of Salt Creek. These projects reclaimed more than 20,000 acres in Porter County and in Gary.<sup>28</sup>

In 1922, the construction of the Calumet Sag Channel drastically altered the hydrology of the Lake Michigan area. The new channel connected the Little Calumet River at its hairpin turn in Illinois to the Chicago Sanitary and Ship Canal. Runoff from part of the Little Calumet River watershed was permanently diverted from the Lake Michigan Basin to the Mississippi Basin.<sup>29</sup>

In 1926, Burns Ditch (now Portage Burns Waterway) was completed, changing the nature and course of the Little Calumet River. Because of periodic floods of the Little Calumet, the surrounding area was a marshland. The river would flow over the roads of Gary. In winter, ice jams also formed at the Broadway Bridge. Dredging is still conducted along the Calumet River system to maintain navigation channels at authorized depths to accommodate deep-draft vessels. Contaminants in dredged spoil from portions of the river, however, pose serious environmental concern. The flood plain of the Little Calumet River and its tributaries is one of the most flood-prone areas in the state. In 1980, the Little Calumet River Basin Development Commission was created by state statute to provide non-federal sponsorship and funding for flood control, recreation, and recreational navigation improvements along the Little Calumet River in Lake and Porter Counties.<sup>30</sup>

## **Natural History**

### **Lake Michigan**

Today’s Lake Michigan has similar characteristics of other deep, cold lakes, but is relatively young due to its glacial origins. The lake’s food chain is also relatively young, simple, and easily disrupted. For example, “benthic drift organisms, which are microscopic life forms fed upon by smaller fish, are an important part of the food chain and are of relatively few types”.<sup>31</sup> The food chain consists of two separate but overlapping parts: the pelagic food web associated with offshore, open water and the benthic food web associated with the bottom. Both parts of the food chain are based on planktonic algae produced in surface waters.<sup>32</sup>

The glacial origins of Lake Michigan also greatly influenced the types of organisms that colonized the lake. “Lake Michigan’s native fish community was largely a result of recolonization of species and evolution of endemics following retreat of the Laurentian Glacier, which began approximately 11,000 years ago. By the time of European settlement in the mid-1800s, 79 fish species inhabited Lake Michigan proper and an additional 40 were recorded from tributaries”.<sup>33</sup> The two main predators were the lake trout and the lake whitefish. Many species spawned in both the lake and in the tributaries.

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<sup>28</sup> Moore, p. 13 (1959).

<sup>29</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 61 (1994).

<sup>30</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, p. 62 (1994).

<sup>31</sup> Hedge, Martin Michelle, 1998. The Southern Tip of the Big-Sea Waters: The Lake Michigan Natural Region, Chapter 27 in The Natural Heritage of Indiana. Marion T. Jackson, Editor. Indiana University Press.

<sup>32</sup> Eshenroder, R.L., et al., 1995. Fish-Community Objectives for Lake Michigan. Great Lakes Fishery Commission Special Publication 95-3.

<sup>33</sup> Id.

The most abundant and well-known species were those commercially fished. Native people and European settlers found the whitefish, lake trout, lake sturgeon, nine-spine stickleback, longnose dace, longnose sucker, lake herring, and Lake Michigan muskellunge, among others. “Commercial fishing began about 1820 and expanded about 20% per year”.<sup>34</sup> By 1879 it was reported that whitefish were depleted in some nearshore locations. In addition, other species had become commercially important: sturgeon, lake trout, lake herring, and deepwater ciscoes. As some stocks became depleted, commercial interests targeted lake herring and deepwater ciscoes. Eventually yellow perch was added to the list of commercially important fish, especially for the southern end of the lake.

The yellow perch population on Lake Michigan is currently in severe decline. In response to declining yellow perch population, harvest regulations on sport and commercial fishermen were tightened. In 1997, commercial harvest of yellow perch was indefinitely suspended. Sport anglers had the daily bag limit reduced to 15 perch per day in 1997.<sup>35</sup>

### **Terrestrial Habitats**

*(The following is an excerpt from Post, Tom 1998. The Natural Heritage of Indiana. Marion T. Jackson, Editor. Indiana University Press.)*

Inland is the Northwestern Morainal area, covering portions of Lake, Porter, and LaPorte counties plus a fraction of St. Joseph County. What this region lacks in size, it more than makes up for in biological diversity, particularly in the number of rare plant species. This great diversity is due to many factors, including the varied topographic relief. More than 300 feet (984 m) of elevational difference occurs from the top of the Valparaiso Moraine to the shore of Lake Michigan. This difference creates many microclimates and niches, which in turn harbor a variety of plant species.

A second factor contributing to this great diversity is the biological meeting ground at the southern end of Lake Michigan. Here elements of three biomes meet: the prairie, the eastern deciduous forest, and the northern boreal forest. It is not unusual to find a prairie plant such as little bluestem grass growing with a northern jack pine, while nearby are eastern forest trees such as American basswood. The moderating effect of Lake Michigan also plays a role by keeping conditions cooler near the lake, allowing more-northern plants to live far south of their normal range.

The Northwestern Morainal Region is composed of three sections: Valparaiso Moraine, Chicago Lake Plain, and Lake Michigan Border. All share certain plants and animals in common, but each has its own unique character.

In walking the length of the Valparaiso Moraine, all major community types of northern Indiana are encountered. The high, rolling hills of the eastern end of the moraine originally were cloaked in mesic forests of American beech, sugar maple, tuliptree, and red oak, with an abundance of characteristic spring wildflowers. Interspersed among the hills were a variety of wetlands ranging from shrub swamps of buttonbush to kettle lakes with floating mats of yellow spatterdock, white water lilies, and water shield. Two of the more interesting wetland types in this section are fens and bogs, and excellent examples of both remain today.

Farther west in Porter and Lake counties, the forest thinned into oak openings dominated by bur and white oaks. The true tallgrass prairie, characterized by big bluestem grass, Indian grass, compass plant, prairie dock, leadplant, and purple prairie clover, was found in western Lake County and extending into Illinois.

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<sup>34</sup> Id.

<sup>35</sup> Indiana Department of Natural Resources, Lake Michigan Strategic Plan, Division of Fish and Wildlife, p. 7 (1997).

Located below and northward of the Valparaiso Moraine is the bed of glacial Lake Chicago. Sands and mucks underlie this flat, poorly drained area. As a result wetlands were numerous, especially along the Little Calumet and Grand Calumet Rivers. Much of this area has become highly industrialized and urbanized, but small, high-quality remnants still remain to give us an idea of the natural history of the region.

Perhaps the most interesting feature of this section is the swell and swale topography. This mosaic of alternating east-to-west wetlands and uplands originally consisted of more than 100 ridges extending south from Lake Michigan. Wetlands varied from shrub swamps to cattail and bulrush marshes, with floating aquatics such as pond-weed, pickerelweed, water lilies, and milfoils present. Sand prairie and savanna occurred on the tops and sides of the dry, sandy ridges. Prairie was composed of little bluestem, sand reed grass, blazing star, spiderwort, among other species. The savannas had many of the same prairie species but also included more typical species such as black oak, bracken fern, wild sarsaparilla, lupine, and goat's-rue. An outstanding example of this landscape is preserved in Clark and Pine Nature Preserve [in Gary].

In the extreme eastern portion of this section, a forest with distinct northern affinities developed on poorly drained soils. It is known today as a boreal flatwoods natural community. Standing water and tip-up mounds made by tree windfalls were common. Overstory trees included northern pin oak, black gum, red maple, tuliptree, and white pine. The ground flora was an interesting assemblage of several ground pine species, wintergreen, partridge berry, and gold thread scattered among fronds of royal and cinnamon fern.

The Lake Michigan Border Section is perhaps the most easily recognized section within this natural region. It occupies a narrow strip of land, at best a few miles wide, immediately adjacent to Lake Michigan from the eastern edge of Lake County to the Michigan State line. The most prominent physical features in this section are tall sand dunes towering in some areas more than 175 feet above the lake.

Starting at the water's edge and proceeding inland, one passes through several interesting communities beginning with the beach itself. The beach, baked by summer sun, windswept all year long, and pounded by winter storms, presents harsh conditions for plant life. Annuals such as sea rocket, bug-seed, and seaside spurge make their homes there. Just inland are the foredunes, which have become stabilized by deep-rooted grasses such as little bluestem, beach grass, and sand-reed grass. Shrubs such as red-osier dogwood, aromatic sumac, sand cherry, and prostrate juniper add color and diversity to the foredunes. The federally threatened Pitcher's thistle occasionally occurs on the foredunes. This species is found only along the shores of Lake Michigan and Lake Huron.

Scattered among the foredunes are shallow depressions created by winds scouring the dunes. These areas usually retain water all year long and are called pannes. Characteristic plants include Kalm's lobelia, fringed gentian, rose gentian, stiff aster, and bladderworts. Many of these plants also occur in fens in the uplands of the moraines.

After an exhausting climb into the high dunes, two different types of plant communities are encountered. Savannas dominated by white and black oaks with an understory of Pennsylvania sedge, bracken fern, lupine, and other sun-loving wildflowers are found on dry, sunny, south-facing slopes. Cool, north-facing slopes have species that are more mesic, such as red oak, basswood, flowering dogwood, and hepatica. Scattered through the dunes are stands of white pine and jack pine, remainders of the cooler climate typically found farther north.

Botanists have long come to the northwest part of Indiana to see this wide diversity of plant species growing in proximity to each other. No other region of the state has such a rich and varied flora.

## Socioeconomic Characteristics

### Historical Perspective on the Lake Michigan Region

Settlement of the region was greatly influenced by the region's natural resources. The abundant fish community of Lake Michigan supported a productive commercial fishery that in turn supported many associated industries. Commercial over-fishing was just one of the major factors that negatively affected fish communities of Lake Michigan and its tributaries. The unintentional introduction of sea lamprey was another important event that altered the fish community. Sea lampreys were first identified in Lake Michigan in 1936. They gained access to the upper lakes through the development of shipping channels that connected the Great Lakes to the ocean. Lamprey populations grew rapidly as they adapted to parasitizing lake trout and burbot. The sea lamprey contributed to the collapse of top predator populations (lake trout and burbot) by the late 1940s.<sup>36</sup>

After World War II, nylon gill nets proved to be a valuable tool to commercial fishermen targeting lake trout and other species. In the middle 1940s millions of pounds of lake trout were commercially caught in each state; however, by the middle 1950s the commercial catch was less than 1,000 pounds, lakewide. A combination of over-harvest and predation by sea lampreys eventually extirpated lake trout from Lake Michigan.<sup>37</sup>

The proliferation of alewife was the third major factor that drastically affected the ecology of Lake Michigan. Alewife invaded (again through man-made channels) in 1949. Elimination of top predators due to invasion by the sea lamprey allowed the alewife to proliferate and further disrupt the native food webs. By the middle 1960s approximately 80% of the biomass in Lake Michigan consisted of alewife.<sup>38</sup>

The alewife is a planktivorous (plankton eating) fish and its great abundance depressed the plankton population needed to foster native planktivores. Additionally, direct predation by alewives on larval fish of several species is believed to have contributed to the extinction of three species of deepwater ciscoes and suppression of emerald shiner, lake herring, yellow perch, and deepwater sculpin.<sup>39</sup>

In addition to direct influences on the fish populations, indirect impacts have been documented due to poor land-use practices, dam construction and water pollution. These have impacted fish populations by restricting access to spawning grounds, physical alterations of spawning grounds, and degraded water quality.

The process of rehabilitating the fish community in Lake Michigan began in the middle 1960s. First, a lampricide was used to control the number of sea lampreys; the suppression of sea lampreys was a necessary prelude to the reestablishment of piscivores (fish-eaters) and this suppression remains essential today. Lake trout restocking was started in 1965. Coho salmon and chinook salmon were introduced in 1966 and 1967 respectively, by the State of Michigan. Commercial harvest of salmonids was eventually restricted or eliminated.<sup>40</sup>

The salmon species fared well and an almost instantaneous sport fishery developed when the mature fish homed-in on their natal streams. The clamor was on for the other Lake Michigan states to introduce salmon as well.

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<sup>36</sup> Indiana Department of Natural Resources, Lake Michigan Strategic Plan, Division of Fish and Wildlife, p.1 (1997).

<sup>37</sup> Id.

<sup>38</sup> Indiana Department of Natural Resources, Lake Michigan Strategic Plan, Division of Fish and Wildlife (1997).

<sup>39</sup> Id.

<sup>40</sup> Id.

Indiana started releasing salmon in 1969. In 1975 Mixsawbah State Fish Hatchery opened and the Bodine Hatchery came on line in 1983. These two hatcheries are capable of producing in excess of 1,000,000 fish (65,000 pounds) annually, solely for stocking Indiana's part of Lake Michigan and its tributaries. Coho and chinook salmon are reared along with 2 strains of steelhead trout. Today, resource agencies annually stock approximately 15 million trout and salmon into Lake Michigan.

As the massive stocks of salmon and trout started to reduce the abundant population of alewives in Lake Michigan through predation, populations of many native species that had been suppressed by alewife started to rebound. Most notable for sportsmen and commercial fishermen was yellow perch. In general, the yellow perch population grew consistently until 1992. The commercial harvest was reported to be 1.6 million pounds (3.5 million-kg) in that year.<sup>41</sup>

Smallmouth bass and several other gamefish are native to Lake Michigan. Relatively shallow water and a shifting sand bottom with little structure dominate the southern shore of Lake Michigan. With the construction of new breakwaters made of various sizes of rock, habitat increased and therefore the abundance of smallmouth bass and other native fishes have also increased.

Unfortunately, exotic species continue to invade and disrupt Lake Michigan's fish community. Several of today's invaders entered the lake community through ballast water discharge. The spiny water flea (*Bythotrephes cederstroemi*), a large zooplankton that preys on small-bodied zooplankton, became prominent in 1986. The spiny water flea may compete with larval natives for resources and disrupt the food web. Other invaders from ballast water that may perturb the fish community are the zebra mussel (*Dreissena polymorpha*), the ruffe (*Gymnocephalus cernuus*) and the round goby (*Neogobius melanostomus*).

It is clear that previous unintentional introductions of exotic species have had profound impacts on the Lake Michigan fish community. However, the effects of recent invaders are still yet to be determined. The potential for introduction of exotic species continues to be a major threat to the Lake Michigan ecosystem.

### **On the Shores of Lake Michigan**

Indiana has a rich heritage of significant historical and cultural resources that place Hoosiers in our national history. The prehistory of Indiana ranges from ca. 10,000 B.C. to approximately 1,650 A.D. when early historical accounts of the area begin to appear. Indiana's location among different Great Lakes-Riverine cultural areas and its geographic and environmental setting bordering the Southeast and Upper Great Lakes area created a number of unique cultural and historical resources. Historic Native Americans were first recorded in Indiana in the 17<sup>th</sup> century. The Potawatomis occupied areas along the Indiana-Michigan border. The first Europeans may have entered Indiana as early as 1660. They included missionaries, explorers, and fur traders. Father Jacques Marquette, a priest from a mission in Mackinaw, Michigan was probably the first European to enter Indiana during his travels around the southern tip of Lake Michigan in 1674.<sup>42</sup>

During the settlement period beginning in the early 1700's, many immigrants arrived from the southern states, France, Germany, Britain, Ireland, and the Mid-Atlantic States. They settled tight-knit pockets in

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<sup>41</sup> Id.

<sup>42</sup> Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, 1998. Indiana's Cultural Resources Management Plan 1998-2003.

rural communities in northern Indiana and contributed to the labor force by building canals, railroads, factories, and trades. African-Americans were also among early settlers. Some African-Americans entered as slaves, however, the terms of the Northwest Ordinance forbade slavery. These immigrants and former slaves became Indiana's first African-American residents. In part due to a segregationist atmosphere in Indiana in the latter part of the 19<sup>th</sup> century, major city centers like Gary became the focus of large African-American populations. A rich ethnic heritage grew in northwestern Indiana including churches, schools, farmsteads, jazz clubs, neighborhoods, and businesses.<sup>43</sup>

An early dependence on water characterized the developing cities of the Great Lakes. The major settlement period of the Great Lakes region coincided with the rapid development of industrial technologies and processes. Proximity to productive agricultural land and access to important raw materials, coupled with a growing labor force, gave the region an unparalleled advantage in domestic and overseas markets. Direct application of waterpower had a more limited role in the Great Lakes cities compared with places inland; rather, water transportation was the foundation of shore-based manufacturing and related activities.

"Water-intensive industrial operations, whether located on the waterfront or nearby, were a natural result of water availability."<sup>44</sup> In the Upper Great Lakes, massive movements of iron ore from northern Minnesota and Michigan to Indiana and neighboring states helped make the Great Lakes transportation system the busiest in the world for many years. The shipping 'backbone' of Great Lakes commercial navigation was made possible with the construction of a ship canal and lock system, opened in 1855 at Sault St. Marie, Michigan. One unfortunate consequence of "the pall-mell industrial era" was environmental degradation. "The binational region's bountiful resources which helped sustain economic growth also were depleted, in some cases recklessly."<sup>45</sup>

The pattern generally applicable to the Upper Great Lakes also applied to Northwest Indiana. Agriculture and fishing were important early commercial ventures, uses still important in the region, but access to raw materials and ready transportation led to rapid industrialization.

Between 1852 and 1865, the first railroads were built to reach Chicago allowing the Midwest to be accessible to the greater population. Soon stations and shipping points were established along the routes, eventually forming the nucleus of the towns to be established. Among these points were Porter, Calumet (Chesterton), Lake Station, and Dyer. The railroads allowed goods to be transported from the east rapidly and allowed raw materials to be brought in for new development.

Interest in a harbor on Trail Creek in Michigan City dated from the early 19<sup>th</sup> Century, owing in part to the construction of the Michigan Road north from Indianapolis. In 1836, Congress appropriated \$20,000 for harbor improvements, and additional appropriations followed in the next two years. Early efforts were generally unsuccessful, however, and the port declined; the "whole story is one of inefficiency, government red tape, and bad politics."<sup>46</sup> Following the Civil War, there was renewed interest in the harbor, and roughly \$1 million was expended through 1897 to improve and manage its facilities. In the 1890s, there were sailing vessels and steam freighters using the area. Small schooners were "so thick that they had to be parked double until they could get to the dock and unload."<sup>47</sup>

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<sup>43</sup> Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology, 1998. Indiana's Cultural Resources Management Plan 1998-2003.

<sup>44</sup> Allardice and Thorp, A Changing Great Lakes Economy: Economic and Environmental Linkages, State of the Lakes Ecosystem Conference (August 1995).

<sup>45</sup> Allardice and Thorp, A Changing Great Lakes Economy: Economic and Environmental Linkages, State of the Lakes Ecosystem Conference (August 1995).

<sup>46</sup> Munger, Michigan City's First Hundred Years, 31-32 (1969).

<sup>47</sup> Id., at 49-50, quoting a former resident, O. K. Deming.

Also in Michigan City, the Haskell and Barker Car Company developed a business manufacturing train cars for the Union Army during the Civil War. In 1869, the company produced 600 cars a year; production increased to 1,000 cars annually by 1879 and 6,000 annually by 1894. In that year, the company employed 3,500 men. "They were using 150,000 tons of iron, 75,000 tons of coal, and 100,000,000 feet of lumber annually."<sup>48</sup>

Until the twentieth century Indiana's shores of Lake Michigan were relatively wild. Chicago was growing rapidly and industries needed land on which to expand. United States Steel chose what would become Gary for a new "ground up" plant, attracted to the southern extremity of Lake Michigan where "the greatest tide of transportation in the world" could be found. The first boat from Minnesota bearing steel entered its Indiana Harbor in 1908, and production began the following year.<sup>49</sup> Other growth occurred in the area, including the Hubbard Steel Foundry Company (1910), the Sinclair Refining Company (1915), Youngstown Sheet and Tube Company (1923), and the Roxana Petroleum Corporation--later Shell Oil (1928). The Indiana Harbor enjoyed an active trade, with principle receipts in the early 20th century including iron ore, coal, limestone, gypsum, wood pulp, and palm oil.<sup>50</sup>

When the United States Steel Corporation built its industrial complex in Gary, it moved the Grand Calumet River channel about 1.5 miles south. During mill operations, millions of gallons of water were pumped each day from Lake Michigan and eventually discharged into the river. In addition, water from the new roofs and paved streets of Gary eventually returned to the Grand Calumet River.

Standard Oil moved its operations to Whiting to be closer to the Midwest market. There were more railroads converging in Chicago than anywhere else in the world and the lake provided cheap water for transportation and industrial uses. Sand ridges were leveled and wetlands were filled. Water lines were constructed into Lake Michigan to bring water into the plant and eventually the city. Sewers were also built to drain Berry Lake and the low areas near the refinery.<sup>51</sup>

Inland Steel found its origins in open-hearth furnaces and mills begun in present-day East Chicago in 1901. The company was the largest industry to move to East Chicago. The plant rapidly expanded as the Indiana Harbor and Ship Canal was nearing completion. In 1907, the Indiana General Assembly enacted legislation allowing industries to fill Lake Michigan to the limits of the state's jurisdiction. The filling process allowed Inland to dispose of steel waste, slag, and continue to expand operations lakeward.<sup>52</sup>

Midwest Steel and Bethlehem Steel companies also looked to Indiana for a new harbor. In the late 1950's and early 1960's the companies bought land in the dunes. The harbor constructed near Burn's Ditch (Portage Burns Waterway) provided a successful port on the Great Lakes for these companies.<sup>53</sup> Residential communities were built along the shoreline including Dune Acres and Beverly Shores.

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<sup>48</sup> Nicewarner, *Michigan City, Indiana: The Life of a Town*, 127-129 (1980).

<sup>49</sup> W.P.A., *The Calumet Region Historical Guide*, 151-161,(1939).

<sup>50</sup> *Id.* at 218-230.

<sup>51</sup> Moore, 193 (1959).

<sup>52</sup> Moore, 235 (1959). Moore explains that the Indiana General Assembly passed the "made-land" law, which permitted industries to fill in Lake Michigan out to the limits of the state's jurisdiction. "Federal control over the Lake began at the depth of twenty-two feet, at which point the water was considered navigable. As the Lake was filled in, industries could obtain a deed from the state for the land thus made for \$25.00 an acre. The companies were required to pay \$100.00 a year taxes for each acre acquired."

<sup>53</sup> J.Sullivan, *A Descriptive History of Land Use, The Indiana Dunes Story: How Nature and People Made a Park*, 20 (1984).

## **Historic Commodities**

Sand was realized as a valuable commodity and provided a source of income for many years. Railroads needed sand for track elevation and municipalities needed sand for filling wetlands. The site of the Chicago World's Fair, the Columbian Exposition of 1893, was filled with sand from the areas just east of Miller. Railroads were built along the side of dunes so those steam shovels on the cars could shovel sand directly into the cars. Sand was also sucked from the shallow waters of Lake Michigan by barges. In 1898, more than 300 cars of sand were shipped from the Dune Park station every day.<sup>54</sup>

Natural resources other than sand were also found to be a source of income. The dunes were filled with white pine and cedar, allowing sawmills to prosper due to the plentiful timber. Roads, buildings, and boats were built with the lumber taken from the shore areas. Rich deposits of lake clay and boulder clay stimulated a brick and tile business bringing the establishment of the City of Hobart and the Town of Porter. Abundant wildlife also fueled trade. Fish and furbearing animals continued to be a source of income for new settlers as they were for the Native Americans and early traders.

Conflicts began to arise over land use of the lakeshore region and the accompanying dunes. Industry was interested in port development on Lake Michigan and many residents were interested in preserving the natural beauty of the area. The first official act to preserve the dunes and wetlands along the south shore of Lake Michigan was the creation of Indiana Dunes State Park in 1925 between Dunes Acres and Beverly Shores. In 1966, Congress devised a compromise between the two conflicting uses by creating both the Port of Indiana, also known as Burns International Harbor, and the Indiana Dunes National Lakeshore.

## **Current Land Uses**

### **Population Characteristics**

Six cities (Hammond, East Chicago, Whiting, Gary, Portage, and Michigan City) and six towns (Ogden Dunes, Burns Harbor, Dune Acres, Porter, Beverly Shores, and Long Beach.) are located along the Lake Michigan shoreline. The unincorporated residential community of Duneland Beach and a small part of the unincorporated area of Michiana Shores also occur along Indiana's shoreline. The watershed includes portions of the following political townships: North, St. John, Hanover, Calumet, Ross, Center, Hobart, Ross, and Winfield in Lake County; Portage, Union, Porter, Westchester, Liberty, Center, Morgan, Pine, Jackson, and Washington in Porter County; and Michigan, Coolspring, New Durham, Springfield, Center, Galena and Hudson in LaPorte County.

The 2000 Census results provide important population data for the coastal region of Lake, Porter, and LaPorte counties.<sup>55</sup> This region represents 12.2% of Indiana's population and has grown by 4.2% from 1990 to 2000<sup>56</sup>. Overall, Indiana is estimated to have grown 9.7% from 1990 to 2000<sup>57</sup>. Census 2000 data show a population in Lake County of 484,564; Porter County population was 146,898, and LaPorte County had a population of 110,106. The City of Gary was the largest city with a population of 102,746<sup>58</sup>.

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<sup>54</sup> Moore, 101 (1959)

<sup>55</sup> Stats Indiana website: <http://www.stats.indiana.edu>

<sup>56</sup> Id.

<sup>57</sup> Id.

<sup>58</sup> Id.



Growth forecasts from 1997 to 2020 for Northwestern Indiana indicate an overall increase for Lake County of 5%, for Porter County of 17.6%, and for LaPorte County of 3.8%<sup>59</sup>. Many areas of northwestern Indiana have exceeded the state growth rate; however Gary, Hammond, and East Chicago populations had an overall decline from 1990 to 2000. Gary lost 11.9%, Hammond lost 1.4%, and East Chicago lost 4.4% of their population<sup>60</sup>. In contrast, cities with the largest growth were Porter in Porter County, which grew at a rate of 59.5%, Dyer in Lake County, which grew by 27.2%, and Schererville, also in Lake County, which grew by 24.7%<sup>61</sup>.

## **Land Uses**

The development of maps utilizing current land uses is difficult in the rapidly changing coastal region. However, land use maps can provide important information on how the coastal region is developed. The U.S. Geological Survey produces maps of land uses and land cover in the United States. Land use refers to man's activities that are directly related to the land. Land cover describes the vegetation, water, natural surface, and artificial constructions at the land surface.

Figure 2.1 shows the land use for the coastal region using the U.S. Geological Survey's 1990 digital data. Land uses were grouped into four categories for illustrative purposes: Agricultural Uses, Open water, Urban-Residential-Industrial, and Natural Areas. Based on the 1990 data, the percent area covered by these categories within the coastal region was calculated as follows:

<b>Land Use Category:</b>	<b>Percent Area:</b>
Agricultural Uses	34.68%
Open Water*	29.02%
Urban-Residential-Industrial	22.62%
Natural Areas	13.68%

\*Includes Indiana's portion of Lake Michigan

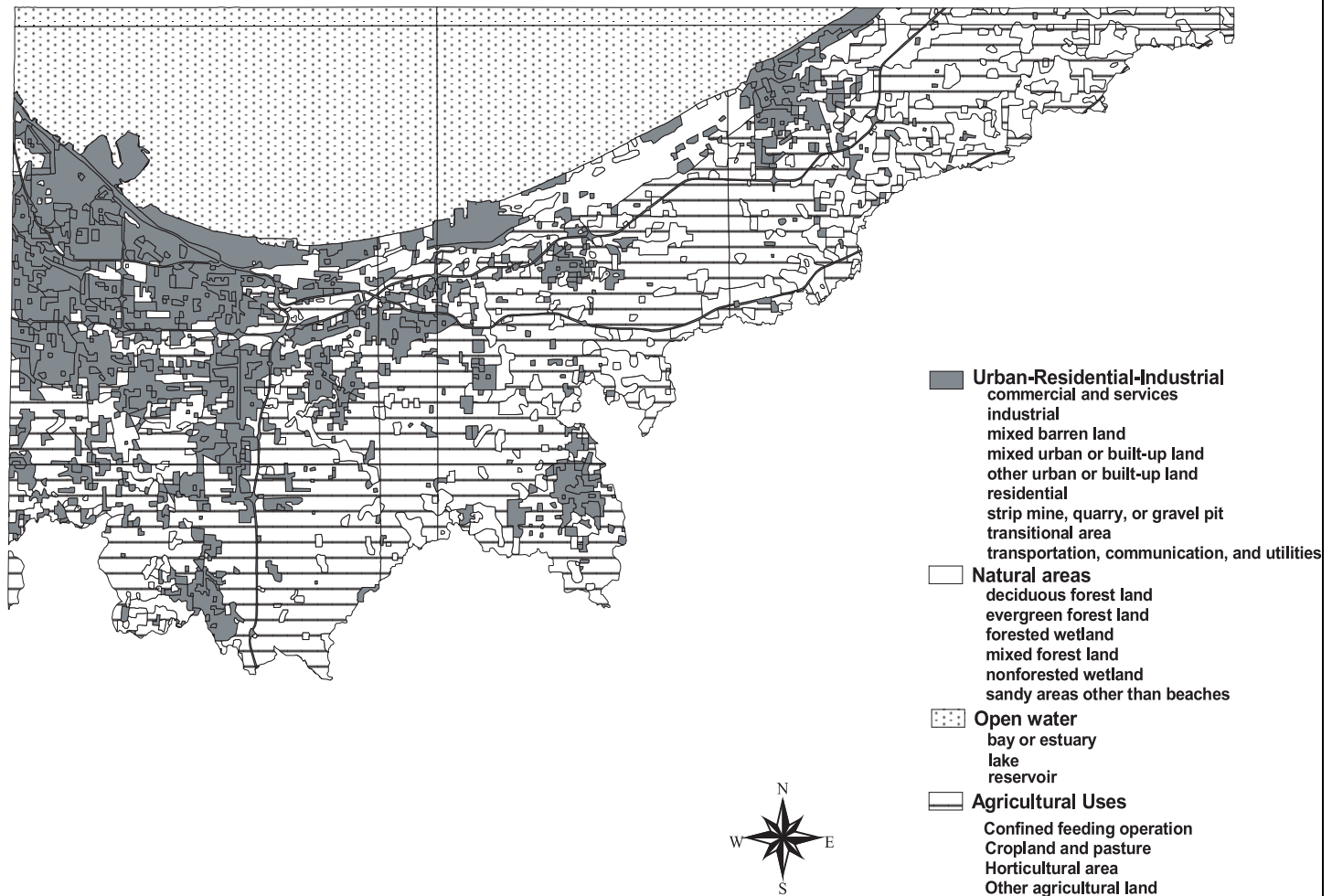
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<sup>59</sup> Stats Indiana website: <http://www.stats.indiana.edu>

<sup>60</sup> Id.

<sup>61</sup> Id.

**Figure 2.1: Current Land Uses in the Lake Michigan Coastal Watershed**



\*based on 1990 USGS data

## **Coastal Economy**

Today, Indiana and the seven other Great Lakes states, together with Ontario, comprise a major industrial and agricultural region of North America. The substantial economic activity in the Great Lakes region has had much to do with making U.S. and Canadian trade the largest bilateral relationship in the world.<sup>62</sup>

The transportation network in the Lake Michigan region is vital to its economic sectors. Harbors in the Lake Michigan region link Indiana to other ports in the Great Lakes. Cargo shipped through the region's ports include coal, coke, iron ore, steel and steel related products, fertilizer, grain, salt, limestone, and

<sup>62</sup> Allardice and Thorp, A Changing Great Lakes Economy: Economic and Environmental Linkages, State of the Lakes Ecosystem Conference (August 1995).

petroleum. Port of Indiana handled more than 8.6 million tons of cargo in 1989, which accounted for more than \$46 million in sales and purchases. Counties in northern, central and even southern Indiana benefit directly and indirectly from Port of Indiana.<sup>63</sup>

The major industries and communities within the Lake Michigan region are linked together by the Chicago South Shore and South Bend Railroad, Interstates 80/90 and 94, and US Highways 12, 20, and 30. Studies by the Northern Indiana Commuter Transportation District show that the South Shore trains helped Indiana residents bring in \$120 million a year in wages and salaries (in 1987 dollars) from jobs in Chicago.

Today, large industry contributes a dominant share to the local economy, including the payment of property taxes. The ten largest industries paid approximately \$175 million in property taxes in 1996. These companies are Bethlehem Steel, Burns Harbor Division; LTV Steel; Cerestar (formerly American Maize); Inland/ISPAT Steel; National Steel, Midwest Division; Lever Brothers; USX; Praxair; NIPSCO; and BP-Amoco. The steel industry employs nearly 30,000 area residents, generating nearly \$20 million daily into the Indiana economy.<sup>64</sup>

Steel making is the dominant industrial use of the Lake Michigan shoreline. The steel industry remains the major employer in Northwest Indiana, although there were up to 75% fewer jobs in individual facilities in the 1990's than in the 1970's. With productivity improved, more tonnage of steel is now produced with fewer workers.<sup>65</sup>

The five major steel plants are LTV Steel and Inland/ISPAT Steel at East Chicago, USX at Gary, National Steel in Portage, and Bethlehem Steel in Burns Harbor. In addition, Beta Steel minimill is located at the Port of Indiana. At least 25% of the steel production capacity in the United States is concentrated on the south shore of Lake Michigan in Indiana.<sup>66</sup>

The BP-Amoco Corporation operates the only oil refinery directly on Lake Michigan. Originally built as the largest refinery in the world by John D. Rockefeller in the 1880's. Relatively little oil is transported by ship but the Calumet region has the greatest concentration of pipelines in the Midwest. Crude oil and natural gas are carried by pipeline from Texas and Oklahoma and distributed by pipeline or truck after refinement. Over 100 years of operation has left an accumulation of oil floating on groundwater beneath the BP-Amoco refinery.<sup>67</sup> In 2000, approximately 9 to 10 million gallons of product remained floating on groundwater. Through product recovery systems, BP-Amoco has confined all product to its property.

Despite efforts to control floating oil in the area of the Indiana Harbor Ship Canal, the U.S. Fish and Wildlife Service (FWS) has found that the remaining floating oil represents a potential hazard to fish and wildlife resources, particularly birds. Information on oil in the Indiana Harbor Ship Canal can be found in the FWS' May 21, 1996 Biological Opinion regarding the effects of the Indiana Harbor Ship Canal maintenance dredging on the peregrine falcon and in the September 16, 1996 Final Fish and Wildlife Coordination Act Report on the dredging project. Both documents are available from the FWS Ecological Services Field Office in Bloomington, Indiana.

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<sup>63</sup> Indiana Department of Natural Resources, Water Resources Availability in the Lake Michigan Region, Indiana, 13 (1994).

<sup>64</sup> McDermott (Editorial), Don't take industry for granted, Hammond Times (Aug. 11, 1996) and available at the following address on the Internet: <http://www.calunet.com/archives/times/960811/McDermott.column.d.03.htm>

<sup>65</sup> Botts, Lee, Current Uses of Indiana's Coastal Resources: Final Report for the Indiana Coastal Coordination Program (November 1995).

<sup>66</sup> Id.

<sup>67</sup> Personal communication, Dave Kalet, 10/20/00, Remediation Manager at the BP Whiting Refinery.

Coal-burning power plants are another major industrial use of Lake Michigan shoreline. NIPSCO's Michigan City generating station, the Bailly station at Burns Harbor, the Dean H. Mitchell plant in Gary, and the Southern Energy Plant in Hammond provide electricity to the utility's service area across approximately the northern third of Indiana.<sup>68</sup>

The Lehigh Portland Cement Company at Buffington Harbor in Gary was formerly a division of U.S. Steel. The calcium aluminate cement was sold world wide for making steel. The use of the harbor for delivery of raw materials prevents other uses, but in 1995, 90 acres was acquired by the City of Gary through the proposed sponsors of casino boat development.<sup>69</sup>

The Port of Indiana, because it was designed to handle traffic from the St. Lawrence Seaway, contains many smaller companies. About 20 companies lease port land for activities including production of hot rolled steel products and steel pickling; distribution of liquid and dry fertilizers, road salt and agricultural calcium, processing and distribution of coal, coke, limestone and construction aggregate materials, and making asphalt. While most raw materials arrive at the port by barge or ship, most distribution to users is by truck.

Significant contributions to the regional and state economy are also provided by agribusiness, as well as commercial and service sectors. More than 36 facilities throughout Northwest Indiana manufacture plastics and related materials. Additional major industries including chemical companies are located along the Grand Calumet River and the Indiana Ship Canal and Harbor. Non-manufacturing jobs are also an important component of the coastal economy. Non-manufacturing jobs increased by 29% between 1983 and 1996. "Wholesale trade is up 40%, and the service industry has seen considerable growth in the last 25 years."<sup>70</sup>

As of 2000, a total of 20 commercial fishing licenses are still held by 11 operators. Commercial fishing boats operate out of Michigan City, Burns Waterway and the Ship Canal. The State also licenses 43 charter boat operations for sport fishing. These boats use all the marinas on the shoreline with some moored in Burns Waterway. "[I]n 1988, Indiana fishermen brought in 1.3 million pounds of fish which generated close to \$1.7 million dollars for the state's economy."<sup>71</sup>

The area also supports several institutes of higher learning. Valparaiso University is a private university located in the city of Valparaiso, Porter County. Calumet College of St. Joseph is also a private college located in the city of Whiting, Lake County. Both Purdue and Indiana Universities have regional campuses, Purdue Calumet and Indiana Northwest, which offer undergraduate and graduate degrees.

### **Economic and Job Statistics**

The coastal region faces some complex economic issues. Employment by industry is changing as the region expands to include more industries including those related to natural resources. The unemployment rates from 1997 were 4.5 % in Lake County, 4.0% in LaPorte County, and 3.0% in Porter County. However, total full and part-time employment increased by 5.5% in Lake County, 8.71% in LaPorte County, and 19.78% in Porter County between 1990 and 1997.<sup>72</sup>

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<sup>68</sup> Botts, Lee, Current Uses of Indiana's Coastal Resources: Final Report for the Indiana Coastal Coordination Program (November 1995).

<sup>69</sup> Id.

<sup>70</sup> Northwest Indiana Magazine, July 1998. Steel NO.1: Steel is Still King, But Other Industries Thrive. Indiana Business Magazine.

<sup>71</sup> Coast Alliance, State of the Coasts: A State-by-State Analysis of the Vital Link Between Healthy Coasts and a Healthy Economy, p. 150 (June 1995).

<sup>72</sup> Indiana Business Research Center website [http://www.stats.indiana.edu/commuting\\_topic\\_page.html](http://www.stats.indiana.edu/commuting_topic_page.html)

Employment by industry between 1990 and 1999 increased in several sectors with Mining (58.76%), Agricultural services, forestry, fishing, and other (35.38%), and Services (32.99%) showing the greatest increase in Lake County. The greatest decline in employment in Lake County involved the Military (-31.96%), Manufacturing (-17.90%), and Transportation and Public Utilities (-11.67%).<sup>73</sup> In LaPorte County the greatest increase in employment was found in the Construction industry (39.70%), Services (31.30%), and Local government (16.99%). The greatest declines were in the Military (-29.65%), Federal civilian (-14.96%), and Manufacturing (-12.28%). In Porter County, the greatest increase in employment occurred in Construction (62.08%), Finance, insurance, and real estate (43.08%), and Wholesale trade (42.22%). The greatest declines were in Military (-22.32%), Transportation and public utilities (-16.11), and Farm employment (12.94%).<sup>74</sup>

Commuting patterns also provide some information about the labor market in the coastal region. Based on the 1999 State tax return information, Lake County workers 16 years of age and older predominately worked in their county of residence. However, 15.6% worked outside of Lake County with 13.38% working outside of Indiana and just 2.22% working in another Indiana county. LaPorte County has similar work patterns with 83.6% of resident workers employed in the county. Of the 16.4% working out of their county of residence, only 1.6% worked out of Indiana. A lower percentage of Porter County workers were employed in their county of residence, 67.9%. Of the 32.1% that worked out of their county of residence, 6.3% worked out of Indiana.

Land use patterns reflect the changing job markets. The number of acres in farms has changed in all three counties. In Lake County, the number of acres in farms has increased slightly from 144,305 acres in 1992 to 148,872 acres in 1997. LaPorte County has experienced a decreased of 7% from 267,695 acres to 247,756 acres during the same time period. Porter County also experienced a decrease of 6% in farm acres from 142,482 acres to 134,505 acres. Porter County is the only county to show a slight increase in farm acres devoted to woodland harvest from 4,111 acres in 1992 to 4,495 acres in 1997.<sup>75</sup>

### **Recreation and Tourism**

The Lakeshore has always attracted people interested in recreation. In 1997, Indiana Dunes State Park had approximately 850,000 visitors and 16,000 campers.<sup>76</sup> The Indiana Dunes National Lakeshore alone receives approximately 1.6 million visitors each year. This activity generates approximately \$26 million annually. Public campgrounds are available at Indiana Dunes State Park and the National Lakeshore. Other important recreational uses of the shoreline include picnicking, nature study, bird watching, and walking. Public access for picnicking is provided at municipal, state, and federal parks.

Recreational fishing impacts the coastal economy. Based on Lake Michigan angler surveys from 1992 through 1995, approximately 110,000 trout and salmon fishing trips were taken and 93,000 fish were harvested annually with an annual economic impact of \$2.8 million.<sup>77</sup> Data from the 1996 National Survey of Fishing, Hunting, and Wildlife Associated Recreation estimates that 761,000 residents and non-resident anglers, age 16 and over, took fishing trips on the Great Lakes. Total spending by anglers for Great Lakes fishing trips totaled \$16,909,000 in 1996, an average of \$280 per angler.<sup>78</sup>

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<sup>73</sup> Id.

<sup>74</sup> Id.

<sup>75</sup> U.S. Census of Agriculture, February 1999. Indiana Agricultural Statistics Service, <http://www.nass.usda.gov/in/countydata.html>

<sup>76</sup> Porter Co Convention, Rec, & Visitor Commission

<sup>77</sup> Indiana Department of Natural Resources, Lake Michigan Strategic Plan, Division of Fish and Wildlife, (1997).

<sup>78</sup> U.S. Fish and Wildlife Service, 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation: Indiana, (1996).

Access for fishing is available directly along the shore outside swimming areas at all but one of the national park beaches and from the Lake Street beach in Gary. Fishing is also possible at the Hammond Water Filtration Plant and NIPSCO's generating stations in Michigan City and Hammond as well as outside the bathing beach at the Wells Street beach in Miller. Sport fishermen can also use fishing piers and breakwalls in 10 public parks or marinas from Hammond to Michigan City. Southern Energy in Hammond, USX, and the Port of Indiana allow access from private piers or breakwalls.<sup>79</sup>

The DNR, Division of Fish and Wildlife has stocked trout and salmon along the shoreline of Lake Michigan since 1969. The area stocked extends from Michigan City to Whiting and includes sites along Trail Creek and the East Branch of the little Calumet River. The number of trout and salmon stocked from 1986 to 1997 ranged from 600,617 to 941,487 fish and averaged 827,292 fish per year.<sup>80</sup>

As the trout and salmon sport fishery developed, so did the charter boat industry. By the mid-seventies, charter boats were harvesting a large number of trout and salmon each year. In 1987, Indiana enacted legislation for regulation of the charter industry to require accurate reporting of catch records. The number of charter licenses issued to fish Lake Michigan during the 1998 charter season was 42, compared to 45 licensed operators in 1997. The number of licenses has steadily decreased from a high of 79 licensees in 1989. Since 1994, the number of charter licenses has ranged between 35 and 45. Harvest rates (number of fish harvested per 100 angler-hours) by charter anglers in 1998 compared to 1997 decreased for coho salmon, chinook salmon, and brown trout, while rates for steelhead and lake trout increased.<sup>81</sup>

Boating and beach uses are the most popular recreational uses of the Lake Michigan shoreline. About half of the 45-mile (72.5 km) shoreline is sand beach. Most beaches are either in public ownership or accessible by easement agreements from the shoreline. However, access from land is limited in several areas by lack of public transportation or parking for cars. The chief commercial activities immediately on the shoreline are concessions associated with beaches and marinas.<sup>82</sup>

Demand for public access is intense and growing. Access for recreational boating increased following formation of the Lake Michigan Marina Development Commission of Michigan City, Portage, Gary, East Chicago, Hammond, Whiting. Marinas supporting boat launches, boat storage, public fishing, public beaches and parks have been developed in Michigan City, Portage, East Chicago, and Hammond. In total, over 2,100 marina slips were available in 1998. The Hammond Marina is one of the nation's largest with 1,113 slips, five launch ramps and fishing piers.<sup>83</sup>

Associated with the marinas are Indiana's Lake Michigan casino boats. Millions of visitors visit the five casino boats annually and coastal residents work at the casinos. In total, the Empress (now called the Horseshoe Casino), the Blue Chip Casino, Majestic Star, the Showboat Mardi Gras Casino (now Harrah's), and the Trump Casino generated almost \$190 million in tax revenue in 1997.<sup>84</sup>

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<sup>79</sup> Botts, Lee, Current Uses of Indiana's Coastal Resources: Final Report for the Indiana Coastal Coordination Program (November 1995).

<sup>80</sup> Indiana Department of Natural Resources. Charter Boat Catch and Effort, Indiana Waters of Lake Michigan, Division of Fish and Wildlife by Janel S. Palla. (1998).

<sup>81</sup> Indiana Department of Natural Resources. Charter Boat Catch and Effort, Indiana Waters of Lake Michigan, Division of Fish and Wildlife by Janel S. Palla. (1998).

<sup>82</sup> Id.

<sup>83</sup> Northwest Indiana Magazine, July 1998. Discover Northwest Indiana: What's Right With the Region. Indiana Business Magazine.

<sup>84</sup> Northwest Indiana Magazine, July 1998. STEEL NO.1: STEEL IS STILL KING, BUT OTHER INDUSTRIES THRIVE. Indiana Business Magazine.

## **Chapter 3: The Coastal Program Area**

The Coastal Program Area defines the lands and waters eligible for financial and technical assistance under the Lake Michigan Coastal Program (LMCP). There are three elements to Indiana's Coastal Program Area: the inland boundary, the lakeward boundary, and federal areas excluded from the program.

### **Establishing the Inland Boundary**

Federal regulation pursuant to the CZMA (15 C.F.R. § 923.31) requires that the inland boundary of a state's coastal program include those areas for which management is necessary to control uses that have direct and significant impacts on the following:

- Coastal waters
- Special management areas
- Marshes and wetlands that contain flora typical of the region
- Beaches
- Transitional areas, i.e. areas subject to storm surge; areas containing vegetation that survives because of conditions associated with proximity to coastal waters; dunes and rocky shore areas to the point of upland vegetation
- Islands

In addition, the inland boundary must be presented in a manner that is clear and exact enough to permit determination of whether a property or an activity is located within the boundary area. An inland boundary defined in terms of political jurisdiction (e.g. county, township or municipal lines) cultural features (e.g. highways, railroads), planning areas (e.g. regional agency jurisdictions, census enumeration districts), or a uniform setback line is an option so long as it includes the areas identified above.

In determining a final inland boundary, comments on the scoping document and P/DEIS were considered, past program development plans were reviewed, the comments from public meetings and the Northwest Indiana Public Workgroups were considered, and scientific inventories and studies were analyzed.

### **Public Input into the Draft Boundary**

The results of the past program development plans and public comments were summarized in a report by Dr. Mark Reshkin, "Boundary Recommendation for the Indiana Coastal Coordination Area September 1995". The following is taken from that report. Public meetings were held on March 29 and 30, 1994 at which an initial draft boundary was presented. The initial draft boundary started at Indianapolis Boulevard eastward from the junction with State Line Road southeast and then to the Indiana Toll Road. From the Toll Road east 4.5 miles to its intersection with U.S. Route 12, then eastward through Lake, Porter, and LaPorte Counties to the boundary with Berrien County, Michigan.

Public comment received at these meetings plus written comments largely recommended a wider boundary area. Several federal agencies urged inclusion of the three coastal counties believing administration would be easier citing the example of the Wisconsin program. Others recommended that the boundary coincide with the Lake Michigan drainage basin boundary. Based on this initial response, two new draft boundary options were presented to the public on August 2, 1995. These options expanded the boundary area as follows:

Option A was similar to the draft boundary proposed in March 1994, however it added some areas south of the Grand Calumet River in Gary and Hammond, the Little Calumet River West Branch corridor from its mouth at Burns Ditch to the proposed control structure in Hammond, and the flood plain of Trail Creek in LaPorte County south to Highway 20.

Option B was a larger area. It included the areas of Option A above and several river corridors, lakes, extensive wetlands and natural areas in all three counties. Among the areas included in Option B were parts of the following river corridors: the East Branch of the Little Calumet River, Salt Creek and Deep River. Additionally, an area including the Hoosier and Oak Ridge Prairies was included under this option as well as Wolf Lake and Lake George in the Hammond-Whiting areas.

Public comment on August 2, 1995 primarily reflected that there was a need for coordination with environmental management efforts underway by the IDEM in the Area of Concern and that boundary options presented do not include the entire Area of Concern. The AOC is all of Lake County north of the Borman Expressway.

It was determined that a third option, Option C, the Lake Michigan Drainage Basin in Indiana, would be developed for consideration by the public.

Additional public meetings were held in October 1995. Public opposition was expressed at these meetings and through local actions by county commissions in Porter and LaPorte counties. Therefore, the DNR determined that additional public input was needed before proceeding with boundary selection. In support of this, the NRC, the policy body for the DNR, resolved to support efforts to improve communication and coordination in the Lake Michigan region. The emphasis of the resolution was on the progress that could be made with better government coordination and without the enactment of new legislation.

In 1995, the DNR launched a public workgroup process to identify issues regarding the economic, natural and cultural resources of Indiana's Lake Michigan Coastal Region and to provide creative solutions for the resolution of these issues. A more detailed description of the workgroups can be found in Chapter 6: Program Development and Implementation. The workgroup process provided information that was used to generate a program boundary to address the priorities identified including government streamlining, economic redevelopment, recreational access, shoreline erosion, waterfront redevelopment, water quality, fisheries management, natural resource conservation, and private property rights.

Public comment on the LMCP Scoping Document, released June 2001, and the P/DEIS, released September 2001, were considered in determining the inland boundary. Public input supported the priorities identified by the 1995 Public Workgroups and many comments supported a watershed approach to development of the program boundary. A more detailed discussion of comments received is below.

### **Boundary Development**

Following the workgroups, the DNR conducted inventories that identified resources related to the identified priorities. These inventories allowed the DNR to determine where special management areas were in relation to the Lake Michigan coastal region.

An examination of natural features was used as the starting point to determine areas that have an impact on coastal waters and natural resources. Watershed boundaries can provide this information. "Watershed



boundaries are defined by the topographic features that dictate natural drainage patterns within an area.”<sup>1</sup> A watershed perspective provides a comprehensive approach to managing natural resources that focuses on producing environmental results while incorporating the communities that depend on those natural resources. Proponents of the watershed approach also highlight its potential to improve government coordination and streamlining. “The approach can result in cost savings by leveraging and building upon the financial resources and the willingness of the people with interests in the watershed to take action. Through improved communication and coordination the watershed approach can reduce costly duplication of efforts and conflicting actions.”<sup>2</sup>

Indiana’s Lake Michigan watershed encompasses the area that drains into the state’s portion of Lake Michigan through its ditches, streams, wetlands, groundwater supplies, and lakes. The U.S. Geological Survey has defined watersheds of the United States by using a hierarchical classification of hydrologic drainage basins. Each hydrologic unit is identified by a unique code. Indiana’s coastal region falls into Region 04, the Great Lakes Region, along with parts of Illinois, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin. This large region is further divided into subregion 0404, Southwestern Lake Michigan, which includes 1,970 square miles of drainage area into Lake Michigan from the St. Joseph River Basin to and including the Milwaukee River Basin and parts of Illinois, Indiana, Michigan, and Wisconsin. The Southwestern Lake Michigan subregion contains the cataloging unit, 04040001, Little Calumet-Galien watershed. This watershed includes a drainage area of 705 square miles in Illinois, Indiana, and Michigan. The Little Calumet-Galien watershed covers portions of Lake, Porter, LaPorte, and St. Joseph Counties in Indiana and all of its waterbodies drain into Lake Michigan.

The Little Calumet-Galien watershed does not include a portion of Lake County that historically drained into Lake Michigan. The Little Calumet and Grand Calumet Rivers have been extensively modified and diverted. In 1850, Hart Ditch was excavated from the town of Dyer to a site near Munster to improve local drainage. This diverted flow to the Upper Plum Creek basin in Illinois. In 1922, the Calumet Sag Channel in Illinois was constructed. This new channel diverted runoff from part of the Little Calumet River watershed out of the Lake Michigan drainage basin and into the Mississippi River basin.

Similar construction projects affected the Grand Calumet River. In 1862, the Calumet Feeder Canal was constructed. This canal diverted the Grand Calumet River flow east into the Illinois and Michigan Canal and into the Mississippi River basin. Although these portions of the Little and Grand Calumet Rivers were once part of the Little Calumet-Galien watershed, the man-made flow diversions have removed them from the U.S. Geological Survey’s classification, which is based on surface drainage patterns.

Inventories and studies were also evaluated as an additional layer of information to develop a draft Coastal Program Area inland boundary. More information about studies conducted during program development can be found in Chapter 6. These studies demonstrate the importance of the area surrounding the portions of the Little Calumet and Grand Calumet Rivers that were diverted from the Lake Michigan basin. This area contains resources that impact the ecological, recreational, and cultural resources of Indiana’s coastal region. For example, the movement of aquatic nuisance species, as well as desirable aquatic species, has been documented into Indiana’s Lake Michigan watershed from the diverted sections of the Grand and Little Calumet Rivers. There are six historic districts and numerous historic sites in these sub-watersheds, and the both rivers have been locally identified for their potential as recreational corridors. Because the LMCP addresses issues relating to more than water quality, such as

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<sup>1</sup> Coastal America. January 1994. “Toward a Watershed Approach” A Framework for Aquatic Ecosystem Restoration, Protection, and Management.

<sup>2</sup> U.S. Environmental Protection Agency, Office of Water. Watershed Approach Framework. <http://www.epa.gov/OWOW/watershed/framework.html#2>

fisheries, recreation and cultural resources, the proposed Coastal Program Area's inland boundary includes these subwatersheds.

Comments submitted on the LMCP scoping document and P/DEIS, were also considered to develop the boundary. Some comments stated a preference for the boundary options presented in 1994, which encompassed a smaller area than the watershed. Several other comments supported the watershed approach, but discussed including the lakes around Valparaiso, the lakes around the city of LaPorte, and Hudson Lake, which they believed were all hydrologically connected through groundwater flow. Based on existing data developed by the DNR Division of Water, the groundwater in proximity to the Valparaiso Lakes does appear to flow towards Lake Michigan; less is known about the groundwater flow for the other lakes mentioned. Based on existing data developed for the report, "*Water Resource Availability in the Kankakee River Basin, Indiana*"<sup>3</sup> the lakes around the city of LaPorte and Hudson Lake occur on a groundwater divide and it is not possible at this time to establish the areas where groundwater flows toward Lake Michigan instead of towards the Kankakee River. Based on surface water flow, the lakes around Valparaiso, LaPorte, and Hudson Lake flow into the Kankakee River basin. Because of the complexity of defining groundwater divides, the DNR determined that it would be better to maintain the program boundary based primarily on the surface water divides. Surface water divides are based on topography and have been established by several studies over time.

An additional comment received on the scoping document resulted in a slight modification to the inland boundary. The dedicated state nature preserve, Biesecker Prairie Nature Preserve, was originally excluded from the proposed boundary in the scoping document. Biesecker Prairie protects a significant natural area that is a remnant of a rare natural community for this portion of Northwest Indiana. It is 34 acres and protects an excellent example of prairie and over 200 species of plants, including several rare species. Biesecker Nature Preserve, located less than one mile from the watershed boundary, represents a high quality example of a rare natural community of the Lake Michigan region and was therefore included in the program boundary.

### Defining the Coastal Program Inland Boundary

Although watershed boundaries provide a comprehensive approach to defining Indiana's Coastal Program inland boundary, it is not easily identifiable in practical landmarks or legal mechanisms. Therefore, the DNR assessed the practicality of using U.S. Public Land Survey townships as an additional layer of information in defining the inland boundary. The U.S. Public Land System or the Rectangular Survey System is a method of land description used to describe more than 50% of the land in the United States. All of Indiana has been described using this survey system. Land is divided into rectangles called townships that have sides approximately six square miles.

The townships are described by a township number and a range number. Townships were further divided into numbered sections of one square mile. This survey system is a convenient means to identify an inland boundary for the Coastal Program Area since it is defined by a legal description shown in local land surveys. In addition, the U.S. Geological Survey Quadrangle maps clearly show township, range, and sections using the same surveying system. Figure 3.1 shows the location of the quadrangle maps in relation to the watershed boundaries.

The townships and sections allow the inland boundary to be defined in established legally referenced terms and to more precisely identify those areas in close proximity to the Little Calumet-Galien River watershed. Figure 3.2 shows the Coastal Program Area inland boundary in relation to the Little Calumet-Galien watershed and the artificially diverted watershed.

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<sup>3</sup> DNR 1990. *Water Resource Availability in the Kankakee River Basin, Indiana*.

Figure 3.1: Quadrangles in the Little Calumet-Galien River Watershed

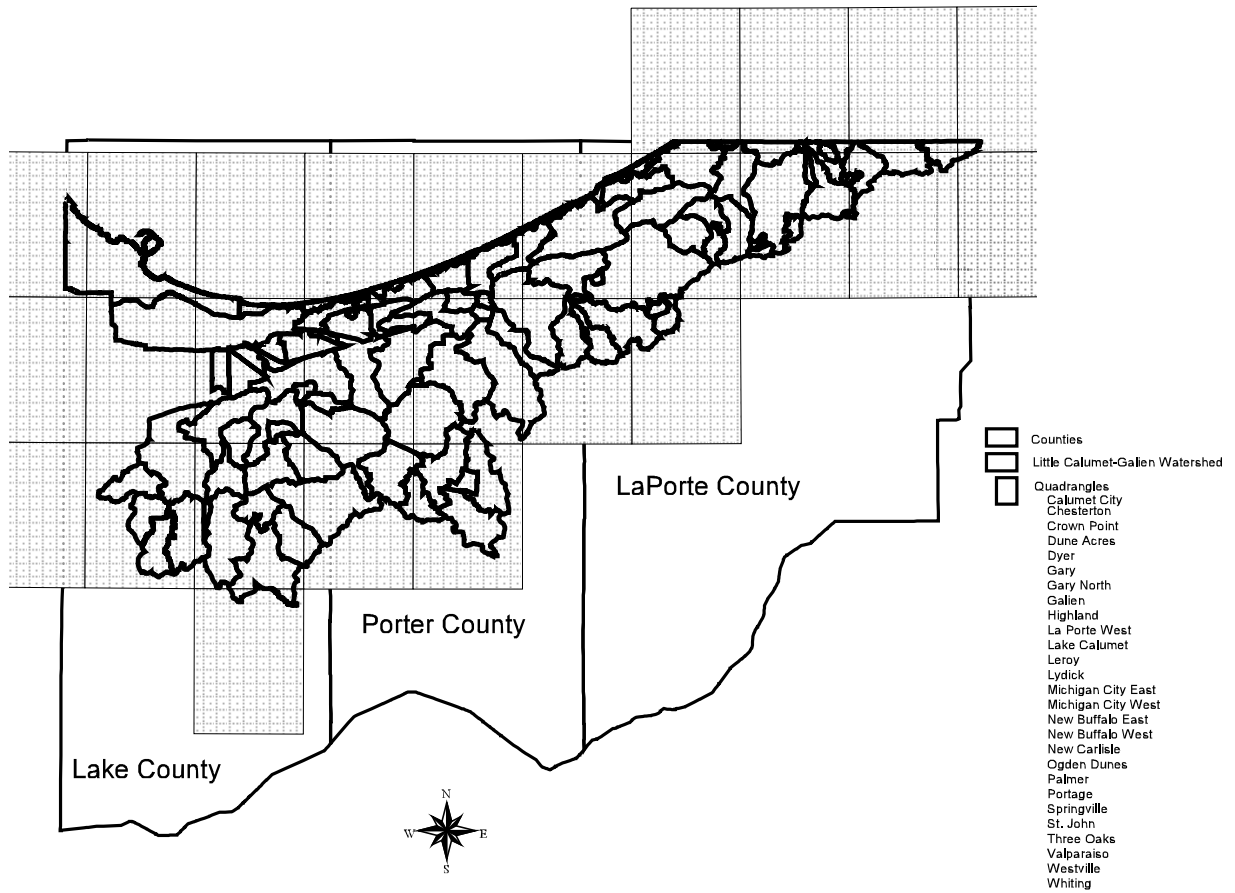


Figure 3.1: Quadrangles in the Little Calumet-Galien River Watershed

**Legend:**

- Inland Program Boundary
- Counties
- Highways
- Lakes
- Cities
- Little Calumet-Galien Watershed (04040001)
- Artificially Diverted Watershed (07120003)

**Map Labels:**

**Cities:** Gary, Hammond, Chicago, La Porte, Westville, Wanatah, Valparaiso, South Haven, Portage, Chesterton, Dune Acres, Beverly Shores, Michigan City, Trail Creek, Long Beach, Hudson Lake, La Porte, Westville, Wanatah, Valparaiso, South Haven, Portage, Chesterton, Dune Acres, Beverly Shores, Michigan City, Trail Creek, Long Beach, Hudson Lake.

**Highways:** I-80, US 12, US 30, US 231, State Hwy 130, Broadway, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 147th, 148th, 149th, 150th, 151st, 152nd, 153rd, 154th, 155th, 156th, 157th, 158th, 159th, 160th, 161st, 162nd, 163rd, 164th, 165th, 166th, 167th, 168th, 169th, 170th, 171st, 172nd, 173rd, 174th, 175th, 176th, 177th, 178th, 179th, 180th, 181st, 182nd, 183rd, 184th, 185th, 186th, 187th, 188th, 189th, 190th, 191st, 192nd, 193rd, 194th, 195th, 196th, 197th, 198th, 199th, 200th, 201st, 202nd, 203rd, 204th, 205th, 206th, 207th, 208th, 209th, 210th, 211st, 212nd, 213th, 214th, 215th, 216th, 217th, 218th, 219th, 220th, 221st, 222nd, 223rd, 224th, 225th, 226th, 227th, 228th, 229th, 230th, 231st, 232nd, 233rd, 234th, 235th, 236th, 237th, 238th, 239th, 240th, 241st, 242nd, 243rd, 244th, 245th, 246th, 247th, 248th, 249th, 250th, 251st, 252nd, 253rd, 254th, 255th, 256th, 257th, 258th, 259th, 260th, 261st, 262nd, 263rd, 264th, 265th, 266th, 267th, 268th, 269th, 270th, 271st, 272nd, 273rd, 274th, 275th, 276th, 277th, 278th, 279th, 280th, 281st, 282nd, 283rd, 284th, 285th, 286th, 287th, 288th, 289th, 290th, 291st, 292nd, 293rd, 294th, 295th, 296th, 297th, 298th, 299th, 300th, 301st, 302nd, 303rd, 304th, 305th, 306th, 307th, 308th, 309th, 310th, 311st, 312nd, 313th, 314th, 315th, 316th, 317th, 318th, 319th, 320th, 321st, 322nd, 323rd, 324th, 325th, 326th, 327th, 328th, 329th, 330th, 331st, 332nd, 333rd, 334th, 335th, 336th, 337th, 338th, 339th, 340th, 341st, 342nd, 343rd, 344th, 345th, 346th, 347th, 348th, 349th, 350th, 351st, 352nd, 353rd, 354th, 355th, 356th, 357th, 358th, 359th, 360th, 361st, 362nd, 363rd, 364th, 365th, 366th, 367th, 368th, 369th, 370th, 371st, 372nd, 373rd, 374th, 375th, 376th, 377th, 378th, 379th, 380th, 381st, 382nd, 383rd, 384th, 385th, 386th, 387th, 388th, 389th, 390th, 391st, 392nd, 393rd, 394th, 395th, 396th, 397th, 398th, 399th, 400th, 401st, 402nd, 403rd, 404th, 405th, 406th, 407th, 408th, 409th, 410th, 411st, 412nd, 413th, 414th, 415th, 416th, 417th, 418th, 419th, 420th, 421st, 422nd, 423rd, 424th, 425th, 426th, 427th, 428th, 429th, 430th, 431st, 432nd, 433rd, 434th, 435th, 436th, 437th, 438th, 439th, 440th, 441st, 442nd, 443rd, 444th, 445th, 446th, 447th, 448th, 449th, 450th, 451st, 452nd, 453rd, 454th, 455th, 456th, 457th, 458th, 459th, 460th, 461st, 462nd, 463rd, 464th, 465th, 466th, 467th, 468th, 469th, 470th, 471st, 472nd, 473rd, 474th, 475th, 476th, 477th, 478th, 479th, 480th, 481st, 482nd, 483rd, 484th, 485th, 486th, 487th, 488th, 489th, 490th, 491st, 492nd, 493rd, 494th, 495th, 496th, 497th, 498th, 499th, 500th, 501st, 502nd, 503rd, 504th, 505th, 506th, 507th, 508th, 509th, 510th, 511st, 512nd, 513th, 514th, 515th, 516th, 517th, 518th, 519th, 520th, 521st, 522nd, 523rd, 524th, 525th, 526th, 527th, 528th, 529th, 530th, 531st, 532nd, 533rd, 534th, 535th, 536th, 537th, 538th, 539th, 540th, 541st, 542nd, 543rd, 544th, 545th, 546th, 547th, 548th, 549th, 550th, 551st, 552nd, 553rd, 554th, 555th, 556th, 557th, 558th, 559th, 560th, 561st, 562nd, 563rd, 564th, 565th, 566th, 567th, 568th, 569th, 570th, 571st, 572nd, 573rd, 574th, 575th, 576th, 577th, 578th, 579th, 580th, 581st, 582nd, 583rd, 584th, 585th, 586th, 587th, 588th, 589th, 590th, 591st, 592nd, 593rd, 594th, 595th, 596th, 597th, 598th, 599th, 600th, 601st, 602nd, 603rd, 604th, 605th, 606th, 607th, 608th, 609th, 610th, 611st, 612nd, 613th, 614th, 615th, 616th, 617th, 618th, 619th, 620th, 621st, 622nd, 623rd, 624th, 625th, 626th, 627th, 628th, 629th, 630th, 631st, 632nd, 633rd, 634th, 635th, 636th, 637th, 638th, 639th, 640th, 641st, 642nd, 643rd, 644th, 645th, 646th, 647th, 648th, 649th, 650th, 651st, 652nd, 653rd, 654th, 655th, 656th, 657th, 658th, 659th, 660th, 661st, 662nd, 663rd, 664th, 665th, 666th, 667th, 668th, 669th, 670th, 671st, 672nd, 673rd, 674th, 675th, 676th, 677th, 678th, 679th, 680th, 681st, 682nd, 683rd, 684th, 685th, 686th, 687th, 688th, 689th, 690th, 691st, 692nd, 693rd, 694th, 695th, 696th, 697th, 698th, 699th, 700th, 701st, 702nd, 703rd, 704th, 705th, 706th, 707th, 708th, 709th, 710th,

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## **Inland Boundary Description**

The Coastal Program Area inland boundary (Figure 3.3) is described based on U.S. Geological Survey Quadrangle maps and major roads for each county. A detailed written description of the boundary is in Appendix C. The program boundary is located in the northern portion of Lake, Porter, and LaPorte counties and extends into Lake Michigan to the jurisdictional border with Illinois and Michigan. It excludes lands owned, leased, or held in trust for the federal government. At its widest extent, the boundary extends away from the shoreline 17 miles to the Crown Point area and at its narrowest point, less than 2 miles, just north of Hudson Lake in LaPorte County. The boundary follows the 45-mile shoreline and the approximately 52 miles along an east-west trajectory across the Valparaiso Moraine.

The western extent of the inland boundary lies along the Indiana-Illinois state line. The northern extent lies along the lakeward boundary and the Indiana-Michigan state line in LaPorte County. The townships that define the inland boundary range from 35 North to 38 North and approximately from Range 1 West to 9 West. The inland boundary includes all or a portion of the following quadrangles: Lake Calumet, Calumet City, Dyer, St. John, Highland, Whiting, Gary, Crown Point, Palmer, Portage, Ogden Dunes, Dune Acres, Chesterton, Valparaiso, Westville, Michigan City West, Michigan City East, LaPorte West, Springville, and New Carlisle. Copies of these quadrangle maps can be ordered from the DNR Map Sales Section<sup>4</sup> See Appendix C for more detailed maps of the Lake Michigan Coastal Program boundaries.

## **Lakeward Boundary**

The LMCP lakeward coastal boundary is the jurisdictional border that Indiana shares with Illinois and Michigan. The lakeward limits, as defined in this section, are for purposes of this program only and represent the area within which Indiana's coastal program may be authorized and financed. These limits are irrespective of any other claims states may have by virtue of other laws.<sup>5</sup>

## **Excluded Lands**

The boundary of a State's coastal program must exclude lands owned, leased, held in trust or whose use is otherwise by law subject solely to the discretion of the Federal government, its officers, or agents. Exclusion of federally owned or leased lands does not exempt them from meeting the Federal Consistency requirements as described in Chapter 11; nor does it prevent the coastal program from forming partnerships and coordinating with federal agencies that own land in the Coastal Program Area, such as the Indiana Dunes National Lakeshore. However, the LMCP is not able to award grants to federal agencies.

To meet the requirement to exclude federally owned or leased lands, Indiana will describe and map lands owned, leased, held in trust or otherwise used solely by federal agencies. The exclusion of federal lands from the coastal area does not remove federal agencies from the obligation of complying with section 307 of the CZMA (federal consistency review) when federal actions on these excluded lands have spillover impacts that affect any land or water use or natural resource of Indiana's Coastal Program Area. Thus, future development and maintenance projects would be subject to review to determine their consistency with the Indiana coastal program.

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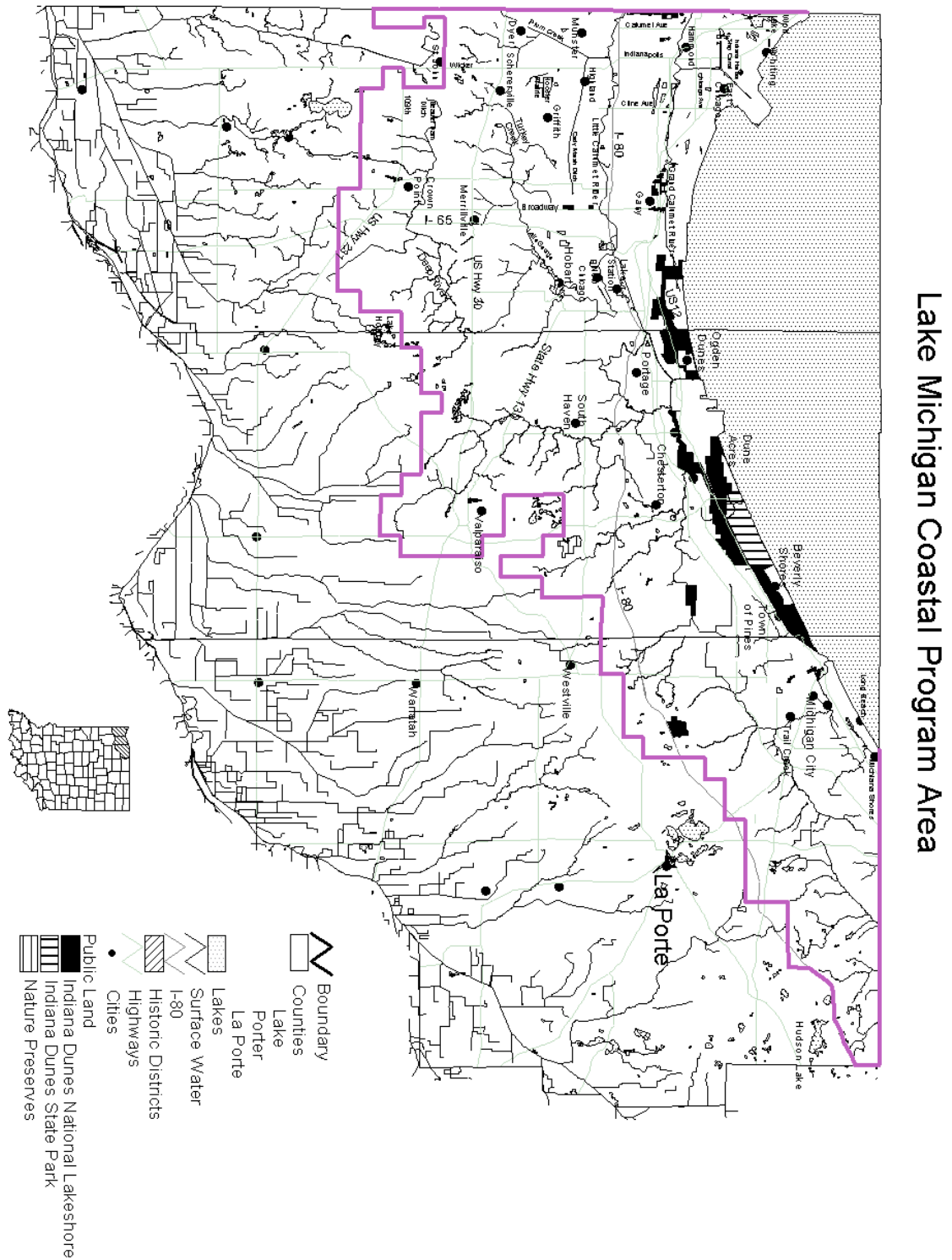
<sup>4</sup> DNR Map Sales Section 402 West Washington St. W160; Indianapolis, IN 46204-2742; (317) 232-4180.

<sup>5</sup> §923.32(2)(b)

Not included in this table, but likewise excluded from Indiana's Coastal Program Area, are individual federal buildings and sites such as post offices, small Coast Guard or ACOE installations, and U.S. Armed Forces reserve centers.

<b>Site Name</b>	<b>Agency</b>	<b>County</b>
Indiana Dunes National Lakeshore	National Park Service	Lake, Porter, LaPorte
Naval Armory	US Navy	LaPorte

Figure 3.3: Final Coastal Program Area



## **Chapter 4: Indiana Lake Michigan Coastal Program Implementation**

Collectively, state, local, and federal agencies manage the natural and cultural resources of Indiana. Management is achieved through a variety of laws and policies that are detailed in Chapter 5. Indiana statutes provide guidance and assign implementation authority for these laws to the State's units of government. Guidance also includes methods the State can use to provide for public participation in the implementation of state laws. The implementation of the Indiana Lake Michigan Coastal Program (LMCP) will be conducted through these existing authorities within state and federal rules and regulations. The LMCP will facilitate program implementation through a networking approach.

This chapter describes the units of government that together administer the laws of Indiana that relate to the management of land and water resources in the coastal region. These entities are the support system for the implementation of the LMCP and are part of a Coastal Program Network. In addition, the role and organization of the LMCP are described.

### **Purpose of the Indiana Lake Michigan Coastal Program**

The purpose of the LMCP is to enhance the State's role in planning for and managing natural and cultural resources in the coastal region and to support partnerships between federal, state and local government agencies and organizations. The LMCP relies upon existing laws and programs as the basis for achieving its purpose.

The DNR will be the lead agency to facilitate implementation of the LMCP. Within the DNR, the LMCP is located in the Division of Soil Conservation. The LMCP will support activities that achieve the following goals in the coastal region:

- Protect and restore significant natural resources;
- Prevent the loss of life and property in coastal hazard areas;
- Improve public access for recreational purposes;
- Protect and restore important historic and cultural resources;
- Improve government coordination and policy and decision making;
- Prevent, reduce, or remediate nonpoint source pollution that affects coastal waters;
- Revitalize urban waterfronts and ports; and
- Provide for priority water dependent uses.

### **Lake Michigan Coastal Program Role and Organization**

The DNR is operated under the supervision of a Director. The Natural Resources Commission assists the DNR in policy development and has rule writing and appellate authority for the DNR. The DNR was designated as the lead state agency to receive and administer CZMP funds for implementing the LMCP. The LMCP will not perform regulatory functions. The LMCP will administer the Coastal Grants Program (see Chapter 7), complete consistency reviews, and seek opportunities to develop partnerships among federal, state and local programs. Examples of general tasks that will be performed by the LMCP include program administration, federal consistency review, grant administration, LMCP review and evaluation, networking with state and local agencies, and outreach and education. As the lead fiscal agent for the



program, the LMCP will prepare and submit the grant application, administer funds, including pass-through grants and contracts, and monitor and summarize project performance as required by NOAA OCRM.

The LMCP is housed in the DNR Division of Soil Conservation. The mission of the Division of Soil Conservation is to ensure the protection, wise use and enhancement of Indiana's soil and water resources by coordinating implementation of the state's Clean Water Indiana soil conservation/water quality protection program and providing assistance to local soil and water conservation districts. The staff and technical resources of the DNR and the Division of Soil Conservation will help support the LMCP. In addition, the DNR Office of Legal Counsel and Natural Resources Commission Division of Hearings provide legal advice and assistance.

## **Coastal Program Network**

There are numerous state and local entities that are responsible for implementing Indiana's laws and policies as described in the LMCP document. The role of these entities will remain unchanged. Permits will be granted or denied with respect to each agency's existing statutes and regulations. State permitting agencies will only administer and apply their existing statutes and regulations; they will not apply authorities of other agencies or programs. The LMCP document sets forth a framework, based on existing policies, laws, and programs, that links existing agencies and laws into a comprehensive network. Through networking among members, state and local perspectives on the management of coastal resources can be integrated. The network will lead to improved coordination, clear establishment of priority issues, and a well-focused effort to meet those priorities.

### **Coastal Program Network Roles:**

*Local Governments* not only develop and enforce local ordinances, but also act as delegates for several state programs such as emergency response and floodplain management. Local governments are also active in economic development and land use issues in their communities. Through the LMCP, local units of government will have an opportunity to obtain financial and technical assistance to develop and implement inventories, plans, and community projects.

*State Agencies* implement a wide range of programs related to the management of coastal resources. Through the LMCP document, the roles of major state agencies, existing policies and laws under their responsibility, and provisions for public participation in State decision-making are detailed. The program document can therefore aid in the identification of state agencies that address various management issues. Additionally, coordination, simplification, and streamlining will be encouraged through the implementation of the LMCP.

*Federal Agencies* conduct many activities in the coastal region. By establishing a cooperative partnership with the CZMP, Indiana's priorities will be represented at the federal level. Federal agencies will be able to work directly with the Coastal Program Network to reduce duplication of effort, improve coordination of projects, and to better understand local and state priorities.

Figure 4.1: DNR Organizational Chart

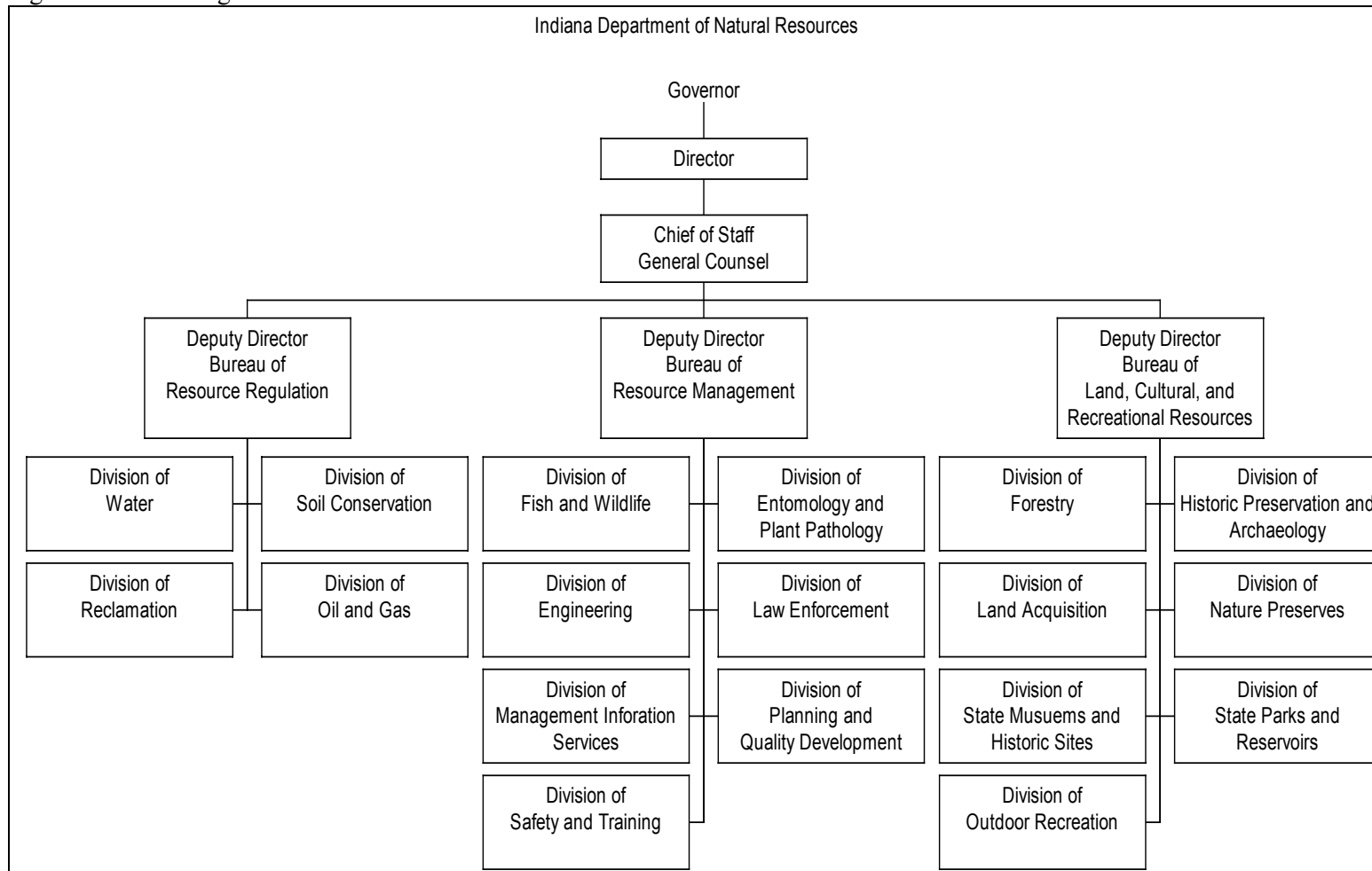
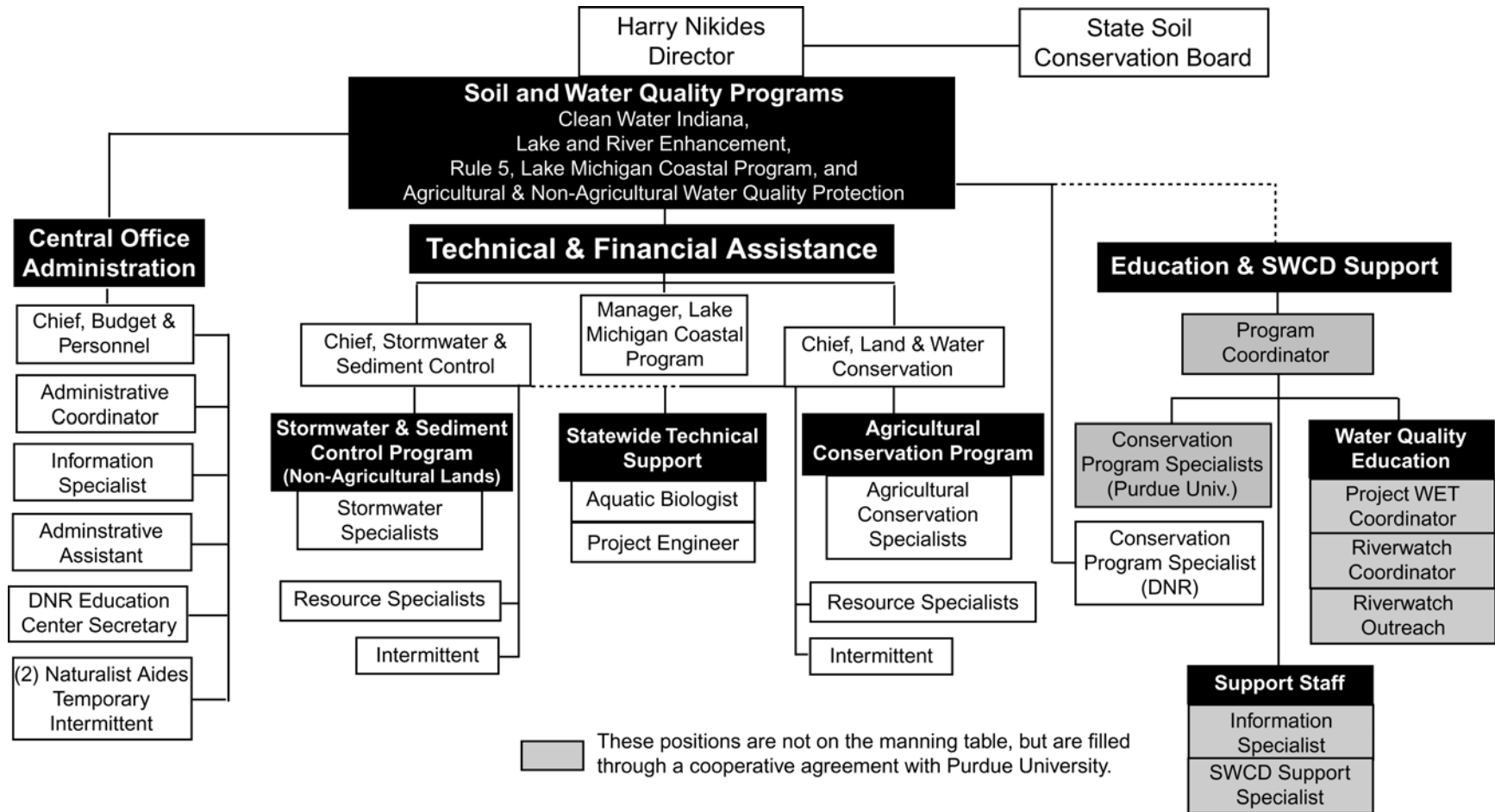


Figure 4.2: DNR Division of Soil Conservation Organizational Chart



## **Consistency Among State Agencies**

State agencies are already responsible for implementing actions in a manner consistent with the laws and policies of Indiana. However, it is the purpose of the LMCP to enhance coordination of government processes and facilitate coordination. The State will utilize existing coordination agreements to ensure consistency with the program document. The LMCP will assist in enhancing communication and in simplifying governmental processes to ensure state consistency.

Each state agency that conducts activities or issues permits within the coastal area will receive a copy of the program document and subsequent revisions. This will assist state agencies in understanding the roles of agencies and programs. In addition, it will enable state agencies to determine if an action will be consistent and initiate early coordination with the LMCP if there are any concerns.

The State will utilize the agreements, boards, and commissions discussed below to ensure state consistency, conflict resolution and public participation. As needed, the LMCP will work with other agencies to develop additional coordination agreements to continue to ensure consistency.

## **Achieving Consistency Through the Coastal Program Network**

### **Coordination Agreements Among State Agencies**

State consistency is essential in achieving improved coordination, increasing predictability in decision making, and ensuring that the LMCP is comprehensive. This section discusses measures to avoid conflicts and achieve consistency in program implementation at the state level. No additional administrative or regulatory requirements have been created, therefore, the LMCP document is a reference of existing state programs and authorities and a guide to identifying opportunities for coordination. The following cooperative agreements demonstrate the State's commitment to working cooperatively to implement the existing laws and policies of Indiana, which comprise the enforceable policies of the LMCP.

#### **Indiana Environmental Protection Act**

The Indiana Environmental Protection Act (IEPA) was developed specifically to address the need for coordination among state agencies during the implementation of state plans, activities, and programs. All state agencies are required to follow the IEPA. The LMCP will provide the program document to state agencies so that they can fully understand their commitment under IEPA to coordinate their activities with the implementation of this new state plan.

In addition, the state's regulation and policy review boards, the Water Pollution Control Board, Air Pollution Control Board and Solid Waste Management Board, have adopted substantively identical rules for the implementation of IEPA. Environmental impact statements are addressed also.<sup>1</sup> The LMCP will also provide these boards with the program document so that they can also meet their commitment under IEPA.

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<sup>1</sup> The IEPA rules of the Air Pollution Control Board are codified at 326 IAC 16. Those of the Water Pollution Control Board are found at 327 IAC 11, and those of the Solid Waste Management Board are found at 329 IAC 5.

IEPA directs the state "to use all practicable means, consistent with other essential considerations of state policy, to improve and coordinate state plans, functions, programs, and resources to the end that the state may do the following:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- Assure for all citizens of Indiana safe, healthful, productive, and esthetically and culturally pleasing surroundings.
- Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.
- Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
- Achieve a balance between population and resource use that will permit high standards of living and a wise sharing of life's amenities.
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."<sup>2</sup>

In addition, to the "fullest extent possible," the "policies, rules, and statutes of the state shall be interpreted and administered in accordance with the policies" set forth in IEPA. All state agencies must do the following:

- "Use a systematic, interdisciplinary approach that will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and decision making that may have an impact on the environment."
- "Identify and develop methods and procedures that will ensure that unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations."
- Include in every recommendation or report on proposals for legislation and other major state actions significantly affecting the quality of the human environment a detailed statement of (A) the environmental impact of the proposal; (B) any adverse impacts that cannot be avoided if the proposal is implemented; (C) alternatives to the proposed action; (D) the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; and, (D) any irrevocable and irretrievable commitments of resources that would be involved if the proposed action should be implemented. The Air Pollution Control Board, the Water Pollution Control Board, and the Solid Waste Management Board are directed to define by rule "the actions that constitute a major state action significantly affecting the quality of the human environment."
- Articulate appropriate alternatives to recommend courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources.
- Recognize the long-range character of environmental problems and, where consistent with state policy, "lend appropriate support to initiatives, resolutions, and programs designed to maximize state cooperation in anticipating and preventing a decline in the quality of the environment."
- "Make available to counties, municipalities, institutions, and individuals advice and information useful in restoring, maintaining, and enhancing the quality of the environment."
- "Initiate and use ecological information in the planning and development of resource oriented projects."<sup>3</sup>

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<sup>2</sup> IC 13-12-4-4.

<sup>3</sup> IC 13-12-4-5.

IEPA is not identical to its federal counterpart, the National Environmental Policy Act (NEPA). A notable distinction is that unlike NEPA, IEPA exempts permitting actions from the requirement that an environmental impact statement be prepared.<sup>4</sup> However, IDEM rulemaking boards are required to take into account factors listed in IEPA before adopting rules regarding the environment.<sup>5</sup>

#### Memorandum of Understanding Concerning the Interagency Shared Neutrals Program For Mediation

A MOU establishes the Interagency Shared Neutrals Program among the DNR, IDEM, NRC, Office of Environmental Adjudication, and State Emergency Management Agency. This coordination agreement addresses the need for a conflict resolution process among the State's environmental and emergency management agencies. The MOU establishes a process in which agencies can voluntarily participate in mediation to resolve conflicts. If a cooperative agreement concerning conflict resolution is required with additional state agencies, this MOU can serve as a template.

The MOU says that State agencies may engage in mediation, defined as: "a process in which a neutral third person, called a mediator, acts to encourage and to assist in the resolution of a dispute between two or more parties... The objective is to help the disputing parties reach a mutually acceptable agreement between or among themselves on all or any part of the issues in dispute. Decision making power rests with the parties, not the mediator. The mediator assists the parties in identifying issues, fostering joint problem-solving, exploring settlement alternative, and in other ways consistent with these activities." (Indiana Rules for Alternative Dispute Resolution, Rule 1.3)

#### Memorandum of Understanding Concerning Permit Coordination For The Departments of Natural Resources and Environmental Management

This MOU between DNR and IDEM provides that the agencies, Indiana's environmental management agencies, will work toward better coordination and cooperation in administering the State's regulatory programs. It also provides that a technical workgroup will establish guidelines for early coordination of the permit process for projects directed to activities within: 1) Lake Michigan and its navigable tributaries; and 2) Waterways permitting, generally, in Indiana where it is deemed more productive and more responsive to the two agencies and the applicant.

The technical workgroup will identify strategies to do the following:

- Determine whether early coordination might be accomplished for a project to include the applicant, IDEM, and DNR (and, as appropriate, the ACOE, FWS, EPA, and the U.S. Coast Guard).
- Where not already available, establish a process for the applicant to request early permit coordination and negotiation to resolve any disagreements.
- Establish a measure of success of the joint permitting process, and whether the development of a joint permit application among IDEM, DNR, and the ACOE is feasible.
- Determine whether other methodologies, supportive of streamlining and protective of the environment, should also be pursued.
- IDEM and DNR will jointly publish a permit handbook or brochure to assist local communities in Indiana.

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<sup>4</sup> IC 13-12-4-8.

<sup>5</sup> *Indiana Environmental Mgt. Bd. v. Indiana-Kentucky Elec. Corp.*, 393 N.E.2d 213 (1979 Ind. App.).

## **Interagency Regulatory Commissions and Boards**

The following commissions and boards establish or recommend state policies and regulations. Except for the Northwestern Indiana Regional Planning Commission and the Lake Michigan Marina Development Commission, each maintains representation from multiple state agencies to achieve consistency in their activities. In addition, most also include representatives from local government. The LMCP will utilize and consult with these entities to achieve consistency with state and local agencies.

### **Natural Resources Commission (NRC)**

The NRC is established at IC 14-10-1-1. The commission consists of twelve members, who include representation from the Indiana DOT, IDEM, DNR, chairman of the advisory council for lands and cultural resources, chairman of the advisory council for water and resource regulation, president of the Indiana Academy of Science, and five citizen members.

The NRC's primary duties are to:

- Assist in implementing uniform policies for natural and cultural resources, including the properties owned by the state and managed through the DNR.
- Adopt rules and develop related nonrule policy documents on behalf of the DNR.
- Oversee the conduct of administrative reviews and mediation for natural resource, navigation, and cultural resources issues within the legal authority of the commission.
- Direct and review special initiatives by its Division of Hearings, the DNR, the Advisory Council for Lands and Cultural Resources, and the Advisory Council for Water and Resource Conservation.

### **Air Pollution Control Board**

The Air Pollution Control Board is established at IC 13-17-2-1. The board is comprised of eleven members which include one representative of each of the following interests: agriculture, manufacturing, labor, local government, small business, health professional licensed to practice in Indiana, and the general public. Ex officio members are the commissioner of the Indiana State Department of Health (ISDH), Director of the DNR, and the Lieutenant Governor. The board is charged with adopting rules necessary to implement the federal Clean Air Act and operating policies concerning the activities of the IDEM.

### **Solid Waste Management Board**

The Solid Waste Management Board is established at IC 13-19-2-1. The board is comprised of one representative from each of the following interests: agriculture, environmental, local government, labor, health professional licensed to practice in Indiana, solid waste management industry, solid waste management districts, and the general public. Ex officio members of the board are the Commissioner of ISDH, Director of the DNR, and the Lieutenant Governor. The board is responsible for adopting rules to regulate solid and hazardous waste and atomic radiation, including rules necessary for the implementation of the federal Resource Conservation and Recovery Act. The board reviews orders and determinations made by the Commissioner of IDEM and develops operating policy concerning the activities of IDEM.

### **Water Pollution Control Board**

The Water Pollution Control Board is established at IC 13-18-1-1. The board consists of one representative from each of the following interests: agriculture, environmental, manufacturing, local government, labor, health professional licensed to practice in Indiana, small business, and the general

public. Ex officio members of the board are the Commissioner of the ISDH, Director of DNR, and the Lieutenant Governor. The board is responsible for adopting rules to regulate water pollution, including rules necessary for the implementation of the federal Clean Water Act. The board reviews orders and determinations made by the Commissioner of IDEM and develops operating policy concerning the activities of IDEM.

#### Northwestern Indiana Regional Planning Commission (NIRPC)

NIRPC is a regional council of local governments serving the three counties of northwest Indiana. NIRPC is designated the Metropolitan Planning Organization for northwest Indiana and is therefore responsible for coordinating the urban transportation planning process for the region. This NIRPC function is conducted in coordination with IDOT. In addition, NIRPC provides a forum to address regional issues relating to the environment and community and economic development. NIRPC consists of 37 members appointed by local elected officials and one member appointed by the Governor. At least two-thirds of the Commission members must be local elected officials. The Commission or its Executive Board holds monthly public meetings. NIRPC staff provides services for several partner organizations including the Little Calumet River Basin Development Commission, the Lake Michigan Marina Development Commission, the Environmental Management and Policy Committee, and the Northwest Indiana Quality of Life Council.

#### Lake Michigan Marina Development Commission (LMMDC)

The LMMDC was created in 1985 by the Indiana General Assembly to spur marina development on Indiana's shoreline and its navigable tributaries, Portage Burns Waterway and Trail Creek. The LMMDC is responsible for comprehensive planning of marina development and for recommending state and local legislation to facilitate the development and successful operation of marinas. The LMMDC is comprised of 6 cities: Michigan City, Portage, Gary, East Chicago, Hammond, and Whiting.

#### Indiana Emergency Response Commission

The Indiana Emergency Response Commission (IERC) consists of 13 members appointed by the Governor who represent local and state government, industry and the public. The commission is chaired by the director of the State Emergency Management Agency (SEMA) and vice chaired by the commissioner of IDEM.

The creation of the IERC was mandated by the Superfund Amendment and Reauthorization Act (SARA) Title III, the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986. It is charged with maintaining Title III records in Indiana, as well as with supervising and coordinating the activities of Indiana's 92 Local Emergency Planning Committees (LEPC).

The LEPCs are composed of elected state and local officials; professionals in law enforcement, emergency management, firefighting, emergency medical services, health, local environmental management, hospital management, transportation, broadcast and print media; community groups; and owners and operators of facilities storing and using Title III chemicals.

Each LEPC is charged with developing an emergency response plan to deal with accidental chemical releases from Title III facilities in its county and with making available to the general public chemical information submitted by those facilities. The LEPCs are funded through the EPCRA under Indiana Code (IC) 6-10.



The IERC operates under authority of IC 36-7-36 and IC 36-7-37. The commission meets bi-monthly and acts upon the recommendations of its six committees: policy, legislative, training, fiscal, communications, and technical, each of which is chaired by a commission member.

### Shoreline Development Commission

The Shoreline Development Commission is established by IC 36-7-13.5. The Commission consists of the mayors of East Chicago, Gary, Hammond, Michigan City, Portage, and Whiting; representatives from Ogden Dunes, Beverly Shores, Dune Acres, and Burns Harbor; representatives from shoreline steel and business; and representatives from IDEM, DNR, INDOT, and the IDEM Northwest Indiana Advisory Board; and several positions appointed by the Lt. Governor, president pro tempore of the Senate, and speaker of the House of Representatives. The Commission addresses an area that includes the Lake Michigan shoreline and corridors along major tributaries in Lake, Porter, and LaPorte counties.

The purpose of the Commission is to prepare a comprehensive master plan for development and redevelopment that includes plans for remediation of environmental contamination; accounts for economic development and transportation issues relating to environmental contamination; and establishes priorities for development or redevelopment of qualifying properties. The IDEM is named as the technical advisor for the activities the commission will perform. The Shoreline Environmental Trust Fund was also established to provide funding for the activities supported by the Shoreline Development Commission.

### **Coordination Within DNR**

As the lead agency for implementation of the LMCP, coordination among the Divisions of DNR is essential to maintaining the Coastal Program Network. The DNR Lake Michigan Workgroup consists of representatives from DNR Divisions as well as a representative from IDEM Northwest Regional Office. The committee will meet regularly to exchange information about on-going projects in the coastal area and to identify opportunities for coordination.

### **Members of the Coastal Program Network**

The following state agencies, commissions, and local delegates for state programs make up the Coastal Program Network. Network members will work together to achieve consistency with Indiana's existing laws and policies as described in the LMCP document.

#### **State Agencies**

##### Indiana Department of Natural Resources (DNR)

DNR is the state agency responsible for the protection, enhancement, preservation, and wise use of Indiana's natural, cultural, and recreational resources for the benefit of Indiana's citizens. Therefore the DNR was designated as the agency responsible for the development and implementation of the LMCP. DNR divisions carry out Indiana's statutory requirements with the approval of the director and advice of the Natural Resources Commission as well as many boards and councils. DNR is also the state's land-holding agency with the power to acquire fee simple and less than fee simple interests in land, waters, and other property. DNR headquarters is located in Indianapolis with several local offices that serve the coastal region.

Goals of the Department include:

- Promote awareness, diversity, availability, and conservation of Indiana's natural, cultural, and recreational resources.
- Emphasize the public information and education potential of DNR programs.
- Acquire additional public lands through the promotion and enhancement of programs such as the Indiana Heritage Trust.
- Apply the watershed/multi-disciplinary management approach to appropriate DNR programs.
- Build upon ongoing DNR management-improvement initiatives, including strategic planning, total quality management, and performance measurement.

Below is a description of several of the divisions that carry out responsibilities for natural and cultural resources in the coastal region.

#### *Division of Soil Conservation*

The Division of Soil Conservation partners with Indiana's Soil and Water Conservation Districts to provide technical, educational, and financial assistance to citizens to solve erosion and sediment related problems affecting land and public waters. These concerns affect both agricultural land and areas undergoing development. The Lake and River Enhancement program specifically targets sediment and nutrient input impacting public lakes, rivers, and streams. Two water conservation education programs are also part of the Division, Hoosier Riverwatch and Project WET. In addition, the Division is responsible for implementing the LMCP. The Division also supports a Resource Conservation Specialist, an Agriculture Conservation Specialist, and an Urban Conservation Specialist that serve the coastal area in cooperation with the local Soil and Water Conservation Districts.

#### *Division of Entomology & Plant Pathology*

The Division of Entomology and Plant Pathology is charged with the protection of Indiana's plant and apiary resources. To meet this charge, the division administers the Indiana plant health and apiary laws and provides certification of plants and plant commodities exported from Indiana to domestic and international markets. Also, the division surveys for pests not native to Indiana, and works to control pests that are not known to occur naturally or are not widely disseminated in Indiana. The division employs professionals with strong skills in entomology, plant pathology, systematics, apiary science, biological control, nematology, forest pathology, weed science, pest epidemiology, and related sciences to meet the technical requirements of its charge.

#### *Division of Fish & Wildlife*

The Division of Fish and Wildlife, committed to managing its namesake resources, serves many constituencies. The division provides Hoosiers hunting, fishing, trapping, and wildlife viewing opportunities. Above all, the division strives to protect natural resources through management programs and research, environmental reviews, hunting and fishing regulations, landowner assistance, land acquisition, and maintenance of 18 fish and wildlife areas and other properties totaling more than 120,000 acres throughout the State. The division supports District Wildlife Biologists, Fisheries Biologists, and an Environmental Biologist that serves the coastal area. In addition, the division established a Lake Michigan Fisheries Research Program at the Lake Michigan office in LaPorte County.

### *Division of Forestry*

The Division of Forestry's diverse programs include state forests, nurseries, private forest land assistance, wildfire prevention, forest products utilization and marketing, forest health, urban and community forestry, licensed timber buyers, and forestry education and information. The division promotes and practices good stewardship of natural, recreational, and cultural resources on Indiana's public and private forests. The Division supports a district Forester that serves the coastal area from an office in the Kankakee Fish and Wildlife Area.

### *Division of Historic Preservation & Archaeology*

The Division of Historic Preservation and Archaeology works with other government agencies, local groups, and individuals throughout Indiana to promote the preservation and enhancement of Hoosier heritage. The division's core activities include identifying historic places, processing nominations to the National Register of Historic Places and the Indiana Register of Historic Sites and Structures, conducting protective reviews of undertakings that may affect historic resources, funding preservation and archaeology projects through competitive matching grants programs, administering tax incentives for rehabilitation projects on historic properties, and a wide range of archaeological activities. Special publications and educational outreach programs are other important division projects.

### *Division of Law Enforcement*

The Law Enforcement division has the duty and responsibility to enforce all state laws. Indiana conservation officers concentrate their enforcement efforts on laws relating to fish, wildlife, boating, snowmobiling and off-road vehicles. Also, conservation officers investigate incidents that result in pollution that threatens the environment and wildlife. Conservation officers patrol Indiana's lakes, rivers, reservoirs, and rural areas 24 hours a day, seven days a week. The division supports a District headquarters at the Lake Michigan office in LaPorte County.

### *Division of Nature Preserves*

The Division of Nature Preserves is responsible for finding, protecting, and managing Indiana's natural areas. The division carries out this work in partnership with state, federal, and local agencies, conservation groups, and private landowners. Following inventories to locate Indiana's rarest features, nature preserves are acquired (primarily with partners) through the Indiana Heritage Trust; and being dedicated under state law permanently protects them. The preserves are managed to ensure that their natural features remain for future generations. The Natural Heritage Data Center manages information on Indiana's biological diversity, helping decision makers avoid impacting Indiana's biological treasures, and helping DNR partners set protection priorities. The division supports a Regional Ecologist that serves the coastal area from an office in Jasper-Pulaski Fish and Wildlife Area.

### *Division of Outdoor Recreation*

The Division of Outdoor Recreation administers six grant programs: Recreational Trails Program, Land and Water Conservation Fund (LWCF), Shooting Range, Hometown Indiana and Wabash River Heritage Corridor Fund. The division assists local park agencies with recreation planning activities and approves five-year park plans. The division also develops the Statewide Comprehensive Outdoor Recreation Plan. The division maintains the 58-mile Knobstone Trail and the state-designated areas of Wildcat Creek, Blue River, and Cedar Creek. Leasing and maintenance agreements for five public snowmobile trails are coordinated through the Division and staff assists the Trails Advisory Board, the Blue River Commission

and the Wabash River Heritage Corridor Commission. Also, division staff maintains a database and Geographic Information System datasets for trails, recreational facilities, and grant programs.

#### *Division of Water*

Division of Water administers laws related to Indiana's surface and ground water resources. The division assesses the state's water resources, investigates water use conflict, oversees flood control planning, coordinates floodplain management, regulates construction in and along the waterways, and inspects dams and levees throughout the state. The division's mission is to ensure wise and beneficial use of the state's water resource to the benefit of all its citizens now and into the future. The division supports a Lake Michigan Specialist that serves the coastal area from the Lake Michigan office in LaPorte County.

#### *Division of State Parks & Reservoirs*

The mission of Indiana's state parks is to preserve, restore, manage and interpret the natural and cultural history of Indiana while providing quality recreational opportunities compatible with the resources. The nine reservoir properties provide recreation opportunities, resource management, and flood control. In addition, the Division manages Indiana Dunes State Park in the coastal region and 21 other parks throughout the state.

#### *Division of State Museums and Historic Sites*

The Division of Museums and Historic Sites collects, preserves and interprets the natural and cultural history of Indiana. It operates and maintains 14 State Historic Sites throughout Indiana and contracts for the joint operation of three other State Historic Sites. These sites include more than 100 historic structures. The Division operates the Indiana State Museum, located in Indianapolis, which interprets many aspects of Indiana history from the ancient coal forests through the Civil War to Amish lifestyles and high school basketball.

#### Indiana Department of Environmental Management (IDEM)

A goal of the IDEM is to better protect Indiana's environment and to serve the public by basing environmental decision-making on quality and scientific data through a transparent process that shares environmental information with the public and reduces regulatory burden.

IDEM is designated as the following:

- The water pollution agency for Indiana for all purposes of the federal Water Pollution Control Act and the federal Safe Drinking Water Act.
- The solid waste agency for Indiana for some purposes of the federal Resource Conservation and Recovery Act.
- The air pollution control agency for Indiana for all purposes of the federal Clean Air Act.
- The state agency with responsibility concerning the Midwest Interstate Compact on Low-Level Radioactive Waste.
- The state agency with responsibility concerning the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the federal Superfund Amendments and Reauthorization Act of 1986.
- The state agency with responsibility concerning the federal Defense Environmental Restoration Act.

IDEM has a Northwest Indiana regional office located in Lake County.

### Indiana Department of Administration

The Indiana Department of Administration is an umbrella agency that provides services to other departments and agencies to help assure the smooth functioning of state government. Services include: contract management and administration for state agencies, forms distribution, facilities management at the Indiana Government Center, human resources services for state employees, information technology services, and administration of the State Land Office. The department also manages and maintains state-owned buildings, facilities, and equipment.

### Indiana Department of Commerce

The Department of Commerce helps create and retain jobs for people of Indiana and promotes economic growth for the state. The Department works for development and expansion of business and industry, including international trade, provides economic development assistance to local communities, and promotes the development of tourism.

### Indiana Department of Transportation

The Indiana Department of Transportation (INDOT) selects, builds, and maintains transportation projects and is charged with developing a multi-modal transportation system that includes air transport, rail, highways, and public transit. INDOT maintains an 11,000-mile highway system and oversees traffic-control devices for these roadways.

### Indiana State Department of Health

The Indiana State Department of Health (ISDH) promotes and protects the health and welfare for all Indiana citizens through education, information, the enforcement of laws and regulations, special projects, and broad programs directed at the public. The Department provides an extensive range of services, maternal and child health programs, and family planning programs.

### Indiana State Emergency Management Agency

The State Emergency Management Agency is the lead agency for the coordination of emergency management programs and response measures. Its mission includes preparing citizens with the proper information before a disaster strikes, responding to a disaster, assisting with recovery efforts, and taking proper steps to prevent or lessen effects of a disaster before or after it occurs.

## **Commissions**

Several additional state designated commissions, not already previously mentioned have responsibilities that affect the coastal region.

### Indiana Advisory Commission on Intergovernmental Relations

The goals of the Advisory Commission on Intergovernmental Relations are:

- Better understanding of the process of government and the intended and unintended outcomes of policy decisions.
- Better communication between all levels of government and citizens.
- Long term planning between all levels of government.

- Applied research on policy areas in order to better understand the impacts of mandates and policy changes.

#### Indiana Utility Regulatory Commission

The mission of the Utility Regulatory Commission is to:

- Prevent utility rates from becoming unreasonably high or discriminatory
- Allow utilities to charge rates that will cover their operating expenses and capital costs and enable their shareholders to recover a reasonable return on their investment.

#### Indiana Ports Commission – Burns International Harbor

The Ports Commission develops and maintains three public port facilities in Indiana. Functioning without a public operating subsidy, IPC generates funds through leases, agreements, and user fees. IPC also has the responsibility to develop and assist in marketing foreign trade zones statewide.

#### Little Calumet River Basin Development Commission

The Little Calumet River Basin Development Commission was established by the Indiana General Assembly in 1980 to "provide for the creation, development, maintenance, administration, and operation of park, recreation, marina, flood control, and other public works projects" along the west arm of Little Calumet River in Lake and Porter Counties. Federally sponsored by the ACOE, the project will provide a 200-year level of flood protection together with recreation features along 10 miles of the Little Calumet River in Lake County from the Illinois/Indiana State Line to Martin Luther King Drive in Gary. The project comprises some 2,500 acres of publicly owned property.

### **Local Agency Delegates For State Programs**

The following local agencies implement specific state laws and policies locally in cooperation and with approval of the State.

#### City of Gary Environmental Affairs

The IDEM authorizes the city of Gary with responsibility for Gary air permit inspection and enforcement.

#### City of Hammond Department of Environmental Management

The IDEM authorizes the Hammond Department of Environmental Management with responsibility of inspection and enforcement related to air permits, asbestos removal inspection and enforcement, and inspection/enforcement of Stage II vapor recovery equipment for fuel retailers.

#### Lake, Porter, and LaPorte County Departments of Health

The county health departments are authorized by the State Department of Health with responsibility for inspection, permitting, and enforcement for residential septic systems (ISDH retains authority for commercial septs).

### Lake, Porter, and LaPorte County Local Emergency Planning Committees

Local Emergency Planning Committees are authorized by the State Emergency Management Agency (SEMA) to plan and prepare for emergency response to releases and spills of hazardous materials. Local committees maintain files and records for public access. Local emergency responders are trained by SEMA through the SARA Title III training program.

### Lake, Porter, and LaPorte County Solid Waste Management Districts

Legislation enacted in 1990 (IC 13-21-3) requires each county, or combination of counties, to form a solid waste management district. Lake, Porter, and LaPorte counties have each created a solid waste management district. Each is required by IC 13-21-5 to develop and submit to IDEM for approval, a solid waste management plan. The plan must include provisions for source reduction and recycling. Each district has the power to plan for and maintain facilities for solid waste management.

### National Flood Insurance Program

Along the Lake Michigan shoreline, 13 communities and the unincorporated areas of Lake, Porter, and LaPorte counties are participating in the regular phase of the National Flood Insurance Program. The regular phase involves the agreement by the communities to adopt special regulations regarding development activities in their respective designated special flood hazard areas. The shoreline communities participating in the program have adopted ordinances that are filed with the DNR, Division of Water. In Lake County, participating shoreline communities include East Chicago, Gary, Hammond, Whiting, and Lake County Unincorporated. Participating communities in Porter County include Burns Harbor, Portage, Ogden Dunes, Dune Acres, Porter, Beverly Shores, and Porter County Unincorporated. LaPorte County communities include Michigan City, Michiana Shores, Long Beach, and LaPorte County Unincorporated.

### Northwestern Indiana Regional Planning Commission (NIRPC)

As the metropolitan planning organization for the region, NIRPC is responsible for coordinating the urban transportation planning process for the region. This NIRPC function is conducted in cooperation with the Indiana Department of Transportation (INDOT). Federal programs include Intermodal Surface Transportation Efficiency Act (ISTEA), Congestion Mitigation and Air Quality (CMAQ) program under ISTEA (Intermodal Surface Transportation Efficiency Act) and Transportation Equity Act for the 21st Century (TEA21).

## Chapter 5: Existing Management Authorities

### Introduction

Management of Lake Michigan coastal resources in Indiana is accomplished through several mechanisms by multiple entities. This chapter presents laws and guidance documents that address significant issues in the coastal area. In addition, the chapter identifies the agencies that administer the laws and guidance documents. The following information was compiled to provide an overview of the management techniques used by local, state, and regional entities to protect, develop, and preserve Indiana's coastal resources.

The Indiana Lake Michigan Coastal Program (LMCP) is based upon the state laws outlined in this chapter. The Coastal Zone Management Act (CZMA), requires Indiana to define what constitutes permissible land and water uses within the coastal area that have a direct and significant impact on the coastal waters.<sup>1</sup> The CZMA requires Indiana to list relevant state constitutional provisions, laws, and judicial decisions that apply to the land and water uses identified by the program.<sup>2</sup> This chapter defines the land and water uses that have a direct and significant impact on the coastal waters, and the laws that manage these uses.

Laws included in this document are existing, state statutes or regulations administered locally according to criteria or standards established by state law, or directly by the State through a network of agencies. These laws include the minimum standards by which activities are managed. In addition, this chapter contains mechanisms such as guidance documents, programs, and funding opportunities that, when combined with the laws, contribute toward the effective management of Indiana's coastal resources. The laws in this chapter apply to state and federal consistency reviews.

The LMCP is based on existing laws governing resource protection and development. Though new laws and programs may be added to the program after formal public review and approval, no new legislation will be created by DNR through the creation of the State's coastal program.

Many participants in the Northwest Indiana public work groups in 1995 were particularly interested in the laws that apply to the topics they discussed. Various subject matters discussed during the public process were grouped into the nine sections of this chapter. It should be noted that these issues are not listed in order of priority. The sections of this chapter include:

- Procedural Framework
- Coastal Hazards
- Water Quality
- Water Quantity
- Natural Areas, Fisheries, Wildlife, and Native and Exotic Species
- Recreation, Access, and Cultural Resources
- Economic Development
- Pollution Prevention, Recycling, Reuse, and Waste Management
- Air Quality
- Property Rights

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<sup>1</sup>15 USC 1455 (d)(2)(B).

<sup>2</sup> 15 USC 1455 (d)(2)(B) and 15 USC 1455 (d)(2)(D).



Each section consists of five elements: (1) a summary of the issue; (2) a list of managed activities; (3) background to the laws; (4) an explanation of the management techniques; and, (5) a table cross-referencing managed activities, laws, guidance documents, agency contacts, and whether the laws are applicable to federal consistency. The managed activities listed in each section are considered to be those activities that have a direct and significant impact on coastal resources.

The table of cross-references found at the end of each section identifies regulatory and nonregulatory programs used to manage the coastal resources. General standards and criteria for the implementation of the programs are included in the table and should only be used as a guide. Complete information regarding standards and criteria for a specific program can be found by reading the corresponding statutes and rules, or by contacting the agency identified in the table for that particular program. Nonregulatory programs are not applicable to state and federal consistency review. Those regulatory programs applicable to state and federal consistency procedures are identified in the table.

The endnotes used throughout the text provide specific cites to statutes and rules explained in the sections. Endnotes also include information related to the topic, but not necessarily critical to the explanation, to provide a more thorough understanding of the material.

The Indiana statutes referenced in this document can be found in offices of state agencies, most public libraries, and local courthouses. In Northwest Indiana, statutes may be accessed at the Indiana Department of Environmental Management Northwest Office at 540 North Broadway in Gary, the Department of Natural Resources at 100 West Water Street in Michigan City, and the Northwestern Indiana Regional Planning Commission at 1600 Southport Road in Portage. Indiana statutes and rules can also be found on the World Wide Web at <http://www.in.gov>.

## Section 5-1: Procedural Framework

This chapter provides the framework for the processes and procedures that govern activities managed in the coastal area. Included are overviews of enforcement mechanisms and permit reviews. The chapter discusses the opportunities provided for appeal of agency actions, including an emphasis upon mediation and other forms of informal dispute resolution. The development of rules (typically called “regulations” at the federal level), nonrule policy documents, and local ordinances is addressed. Public access to governmental meetings and records is considered. Finally, the chapter outlines two specialized statutes addressed particularly to achieving environmental compliance in the administration of state law.

### Managed Activities

- Civil and criminal enforcement
- Pre-permit hearings
- Administrative adjudication
- Informal dispute resolution
- Rules
- Nonrule policy documents
- Ordinances
- Public access to agency records and meetings
- Other environmental review procedures

### Background

Some procedural elements have antecedents as old as the origins of common law. Civil enforcement and criminal enforcement have existed for as long as the concepts of civil law and criminal law.

Brief backgrounds may be supportive of discussions relating to rule adoption, administrative adjudication, agency records, and public meetings. Their histories, at least as bearing upon a modern application, date mostly to the period since World War II.

In 1945, the Indiana General Assembly enacted legislation “providing for the adopting, making, approving, filing and publishing of rules.”<sup>1</sup> The legislation has experienced incremental changes through the last half of the 20<sup>th</sup> century, but the original bill is fundamentally unchanged in the current codification.<sup>2</sup>

Two years later, the General Assembly approved an act “concerning the proceedings, orders and determinations of State officers and agencies and judicial review.”<sup>3</sup> This legislation remained in place with only modest amendments through 1985. At that time, the bipartisan Administrative Adjudication Law Recodification and Revision Commission began a two-year process of summer studies and legislation that resulted in the enactment of the Administrative Orders and Procedures Act (or AOPA).<sup>4</sup>

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<sup>1</sup> Ind. Acts of 1945, Ch. 120.

<sup>2</sup> IC 4-22-2.

<sup>3</sup> Ind. Acts of 1947, Ch. 365.

<sup>4</sup> IC 4-21.5.

Development of the AOPA was motivated, in large part, by a “formidable notice problem”<sup>5</sup> manifested in what came to be known as the Town of Bremen case.<sup>6</sup> The decision had ruled a permit for a sanitary landfill was void ab initio (from the beginning) where the agency did not provide registered mail notice to each person on the aquifer where the landfill was to be located. Following lively discussions among interest groups, the AOPA represented a compromise, assuring broad opportunities for public participation but allowing service by first class mail and by newspaper publication on individuals whose identities or addresses were not readily discernable. The AOPA also made numerous changes to the earlier procedural law, many of which were designed to mirror modern modes of civil practice (such as recognition of motions for default, motions for summary judgment, and rules for discovery).

In 1953, the Indiana General Assembly enacted legislation addressing both public documents and public meetings. The legislation reflected that “government is the servant of the people, and not the master of them.” The general principle was established that citizens are “at all times entitled to full and complete information regarding the affairs of government.”<sup>7</sup> This legislation has since been separated into two laws, one addressing public records<sup>8</sup> and the other public access to meetings (commonly called the “Open Door Law”).<sup>9</sup>

## **Implementation of Management Techniques**

### **Civil and Criminal Enforcement**

In general, the State and its agencies have access to traditional civil mechanisms for the enforcement of laws. The Attorney General is generally responsible for prosecuting and defending suits that are instituted by or against the State and its officers, and including any matters involving the rights or interests of the State.<sup>10</sup> The Attorney General has charge of and directs the prosecution of all civil actions brought in the name of the State. In these civil actions, neither the State nor an agency may be required to file a bond.<sup>11</sup> The Attorney General may also bring an action, for declaratory and equitable relief, in the name of the State for the protection of the environment of Indiana from significant pollution, impairment, or destruction.<sup>12</sup>

The State or a private person may bring what is sometimes called an “environmental legal action” against a person who caused or contributed to the release of a hazardous substance or petroleum into the surface or subsurface soil or groundwater. The State or private person must show the release poses a risk to human health and the environment to recover reasonable costs of a removal or remedial action involving the hazardous substances or petroleum.<sup>13</sup> In resolving an environmental legal action, a court shall allocate the costs of the removal or remedial action in proportion to the acts or omissions of each party, without regard to any theory of joint and several liability, using a breadth of legal and equitable factors. If the parties have entered a contract to allocate costs and responsibilities, the contract is binding on them. The State is not bound by the contract unless a signatory.<sup>14</sup>

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<sup>5</sup> Development of the AOPA is discussed in K.G. Lucas, *Administrative Adjudication—Revised and Recodified*, 20 IND. L. REV. 1 (1987).

<sup>6</sup> *Indiana Environmental Management Board v. Town of Bremen*, Ind. App., 458 N.E.2d 672 (1984).

<sup>7</sup> Ind. Acts of 1953, Ch. 115.

<sup>8</sup> IC 5-14-3.

<sup>9</sup> IC 5-14-1.5.

<sup>10</sup> IC 4-6-1-6 and IC 4-6-2-1.

<sup>11</sup> IC 4-6-3-2.

<sup>12</sup> See IC 13-30-1 (environmental citizen suit provisions) discussed later.

<sup>13</sup> IC 13-30-9-2.

<sup>14</sup> IC 13-30-9-3.

An infraction is a violation of a statute for which a person might be fined, but not imprisoned.<sup>15</sup> An action to enforce an infraction is brought in the name of the State by the prosecuting attorney in the county where the infraction is alleged to have occurred. Particular statutes define infractions. For example, a person who does not comply with permitting requirements by the INDOT for tall structures commits a Class A infraction.<sup>16</sup> An infraction may also be defined by an ordinance, in which case enforcement is taken in the name of the municipal corporation that adopted the ordinance.<sup>17</sup>

Criminal enforcement is generally the responsibility of each county's prosecuting attorney.<sup>18</sup> Crimes include felonies and misdemeanors.<sup>19</sup> A felony is a violation of a statute for which a person might be imprisoned for more than one year. A misdemeanor is a violation of a statute for which a person might be imprisoned for not more than one year.<sup>20</sup> In a few instances, the Attorney General has concurrent criminal enforcement authority with the prosecuting attorneys.<sup>21</sup>

Crimes are defined in the criminal code or in particular statutes. Substantive criminal provisions are generally categorized in the criminal code as offenses against the person; offenses against property; offenses against public administration; offenses against public health, order, and decency; and miscellaneous offenses.<sup>22</sup> Included among offenses against public health are poisoning public water and littering.<sup>23</sup> Particular statutes also define crimes. For example, a person who intentionally, knowingly, or recklessly violates environmental management laws, air pollution control laws, water pollution control laws, a rule adopted by an IDEM board, or a permit or order by IDEM, commits a Class D felony.<sup>24</sup> Another example of a particular enactment defining a crime is the delineation of felonies and misdemeanors for the violation of statutes that protect wild animals.<sup>25</sup>

### **Pre-Permit Hearings**

For activities requiring an agency permit and likely to attract public interest, the enabling legislation typically provides hearing opportunities to receive public input. These hearings are designed to assist the agency with fact-finding but are not typically designed to offer "due process." The somewhat more formal process for the review of agency permit and enforcement is governed, for most agencies, by the "administrative orders and procedures act" discussed in the next section of this chapter.

For example, when IDEM receives a permit application, the agency must send notice to the county commissioners and any city or town that would be affected by the permit.<sup>26</sup> A public hearing must be held on whether to issue or renew a permit for a hazardous waste disposal facility, solid waste disposal facility, or solid waste incinerator, if requested by 100 adult individuals who live in the county or within one mile of the site.<sup>27</sup> The hearing is to be held in the county where the facility would be permitted.<sup>28</sup>

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<sup>15</sup> IC 33-1-13-1.

<sup>16</sup> IC 8-21-10-15.

<sup>17</sup> IC 34-28-5-1.

<sup>18</sup> IC 33-14-1-14.

<sup>19</sup> IC 35-14-1-14.

<sup>20</sup> IC 33-1-13-1.

<sup>21</sup> See, for example, IC 4-6-2-1.1 and IC 14-22-39-1.

<sup>22</sup> IC 35-42 through IC 35-46.

<sup>23</sup> IC 35-45-3.

<sup>24</sup> IC 13-30-6-1.

<sup>25</sup> IC 14-22-38.

<sup>26</sup> IC 13-15-3-1.

<sup>27</sup> IC 13-15-3-3.

<sup>28</sup> IC 13-15-3-4.

INDOT holds public hearings “providing information early in the process of making decisions affecting proposed highway or bridge construction.” These hearings are to consider “economic, social, environmental, and other effects of highway projects and proposals” at which any person must be allowed “an opportunity to be heard in the presence of others who are present to testify.”<sup>29</sup>

Special notice requirements also apply to several permits issued by the DNR. Included among these is a permit to possess wild animals, to construct along a public freshwater lake, to construct a dam, or to construct facilities or place fill in a floodway.<sup>30</sup> Notice must be given to at least one of the owners of each parcel of real property reasonably known to be adjacent to the affected real property and to any person requesting notice.<sup>31</sup> A public hearing must be held if requested by at least 25 adult persons who reside in the affected county or within one mile of the permitted activity.<sup>32</sup>

If an objection is received to a proposal to add or remove a site from the Indiana register of historic sites and historic structures, a member of the Historic Preservation Review Board must hold a public hearing. The Board then makes a final decision, subject to administrative review to the NRC.<sup>33</sup>

### **Administrative Adjudication**

The “administrative orders and procedures act” (or AOPA)<sup>34</sup> typically governs the review of permits and other orders issued by state agencies. Agencies that are covered include IDEM, DNR, ISDH, and (for other than rate making) INDOT. One notable exemption from agency coverage is the Indiana Utility and Regulatory Commission (IURC),<sup>35</sup> this agency is discussed later in this section.

The scope of the AOPA is pervasive and applies generally to any “agency action.” An “agency action” includes the whole or a part of an order, the failure to issue an order, and an agency’s performance or failure to perform any duty or activity governed by the AOPA.<sup>36</sup> An “order” means an agency action of particular applicability that determines the “legal rights, duties, privileges, immunities, or other legal interests” of a specific person.<sup>37</sup> Order includes a “license.” A license is a “franchise, permit, certification, approval, registration, charter, or similar form of authorization required by law.”<sup>38</sup> One notable exemption from the concept of “agency action” is a decision by an agency “to issue or not to issue a complaint, summons, or similar accusation.”<sup>39</sup>

Two primary functions are attributable to agencies by the AOPA, permitting (licensing) and enforcement. For both of these functions, there are two types of proceedings. Statutory chapter 3 (IC 4-21.5-3) of the AOPA governs all of these. Statutory chapter 4 (IC 4-21.5-4) governs emergency or temporary proceedings.

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<sup>29</sup> IC 8-23-2-17 implementing 23 USC 128 and 49 USC 1602(d).

<sup>30</sup> IC 14-11-4-1.

<sup>31</sup> IC 14-11-4-5.

<sup>32</sup> IC 14-11-4-8.

<sup>33</sup> IC 14-21-1-17. The NRC has adopted rules to assist in implementation of pre-permitting hearing processes. See 312 IAC 2-3.

<sup>34</sup> IC 4-21.5.

<sup>35</sup> IC 4-21.5-2-4.

<sup>36</sup> IC 4-21.5-1-4.

<sup>37</sup> IC 4-21.5-1-9.

<sup>38</sup> IC 4-21.5-1-8.

<sup>39</sup> IC 4-21.5-2-5(8). See, however, the subsequent discussion of IC 13-30-1 regarding citizen suits.

Section 4 of statutory chapter 3 (IC 4-21.5-3-4) governs the very limited number of permits listed. Included are drivers licenses, sport fishing and sport hunting licenses, and approvals for the placement of some equipment and facilities by IDEM where the underlying activity has included or will include an opportunity for public participation. For activities governed by section 4, the opportunity for public participation is described in the substantive statutes, and the licenses are generally effective when issued.

Section 5 of statutory chapter 3 (IC 4-21.5-3-5) governs permits and permit-renewals that might be of general public interest. The effectiveness of a permit under this section is deferred to provide an affected person with the opportunity to seek administrative review, a stay of effectiveness, or both. Here, broad notice requirements apply and extensive mechanisms for public participation are provided. The agency must, when it determines to issue a permit, notify the following:

- each person to whom the order is specifically directed (most typically, the permit applicant);
- each person to whom another law requires notice to be given;
- each competitor for a mutually exclusive license;
- each person who has provided the agency with a written request to be notified of the order, if the request describes the order with reasonable particularity and is delivered to the agency at least seven days before the order is to be issued;
- each person who has a substantial and direct proprietary interest in the subject of the order; and,
- each person needed for just adjudication.

The second and fourth categories for requisite notice may have the greatest significance in terms of public participation. With respect to the second category, environmental laws commonly provide for notice to potentially affected persons. For example, an applicant for construction in a floodway must cause notice to be provided to the owners of each parcel of adjacent real property.<sup>40</sup> Another example is that whenever IDEM receives a permit application, IDEM sends notice to the affected county executive, as well as the executives of any affected city or town.<sup>41</sup> The fourth category allows any interested person to require receipt of notice of a permitting action, without any showing of impact to that person occasioned by permit issuance.

The AOPA governs regulatory conduct among “persons.” The term is broadly defined to include an “individual, agency, political subdivision, partnership, corporation, association, or other entity of any character.”<sup>42</sup> Typically but not universally, a state agency is at least one of the “persons” who is a party to an AOPA proceeding. Ordinarily, a state agency is the permitting authority or the entity seeking enforcement of a regulatory program. In addition, however, the agency may be the entity seeking a permit, the subject of an enforcement action, or an affected landowner.<sup>43</sup>

The AOPA creates minimum procedural rights and imposes minimum procedural duties.<sup>44</sup> Particular regulatory programs may supplement these rights and duties. For example, the NRC has provided, by rule, additional notice requirements for boat race permits. An applicant must publish notice in a newspaper of general circulation in the county where the race is to occur. For a race on Lake Michigan or

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<sup>40</sup> IC 14-11-4-5.

<sup>41</sup> IC 13-15-3-1.

<sup>42</sup> IC 4-21.5-1-11.

<sup>43</sup> For example, a third person remonstrated against the application by one agency (Indiana State Fair Board) to another (Historic Preservation and Review Board) to have a structure removed from the state register of historic places in *Save the Tee Pee Committee v. DNR*, 5 Caddnar 1 (1987). The DNR has been a party to enforcement action against INDOT alleging violations of the Flood Control Act and in a dispute as a landowner against a licensed timber buyer.

<sup>44</sup> IC 4-21.5-2-1.

a public freshwater lake, notice must also be provided to the owners of each parcel of property reasonably known to be located within 200 feet of the course.<sup>45</sup>

Sections 6 and 8 of statutory chapter 3 (IC 4-21.5-3-6 and 8) govern agency enforcement actions. Section 6 applies only if authorized in the AOPA or by another state statute. A notice of violation or other sanction governed by section 6 is generally effective when issued and is subject to administrative review only if a recipient seeks review. An example of a section 6 order is a safety order under the Indiana Occupational Safety Act.<sup>46</sup> Following investigation and an opportunity for response by an alleged violator, IDEM may issue a notice of violation that is effective unless a recipient seeks administrative review.<sup>47</sup> A third example is the DNR, through the State Entomologist, may issue a notice of violation and penalty under section 6 where an apiary is determined to harbor a pest or pathogen (such as africanized bees).<sup>48</sup>

For other enforcement actions, section 8 applies. In this instance, administrative review is sought by the agency through the filing of a “complaint.” The enforcement becomes effective only upon completion of the agency proceeding. This process is used most commonly for permit revocations or otherwise where section 6 is not statutorily authorized. The DNR also has authority to file a complaint for a notice of violation against any “person who violates a law administered by the department for which a misdemeanor or an infraction penalty is established.”<sup>49</sup>

Statutory chapter 4 of the AOPA (IC 4-21.5-4) governs emergency and temporary orders. The proceedings in this chapter are roughly parallel to temporary restraining orders or preliminary injunctions in a civil court. An order under this chapter cannot be effective for more than 90 days unless extended in the context of a full proceeding on the merits.<sup>50</sup> This chapter may be used where an emergency exists or where a statute authorizes its use.<sup>51</sup> An illustration of the latter is the DNR Director may declare a “ground water emergency” under this statutory chapter where a domestic well is found to have failed because of the operations of a “significant water withdrawal facility.” The declaration may prescribe remedial action by the operator but must also set a hearing date, scheduled as soon as practicable, to assure a prompt opportunity for review of the order.<sup>52</sup>

The “ultimate authority” for an agency (or an administrative law judge for the ultimate authority) conducts any hearing or process to prepare for hearing. The “ultimate authority” is the individual or panel of individuals in whom the final authority of an agency is vested by law or executive order.<sup>53</sup> The “ultimate authority” for an agency may be implicit to the structure of the agency or set forth explicitly by statute. For example, the Office of Environmental Adjudication, acting through an “environmental law judge,” is the ultimate authority for IDEM.<sup>54</sup> The NRC (sometimes acting through its administrative law judges) is the ultimate authority for DNR.<sup>55</sup> The Executive Board, or an appeals panel if designated by statute, is the ultimate authority for the ISDH.<sup>56</sup>

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<sup>45</sup> 310 IAC 2.1-3-3.

<sup>46</sup> IC 22-8-1.1.

<sup>47</sup> IC 13-30-3.

<sup>48</sup> IC 14-24-8-3 and 312 IAC 18-3-7.

<sup>49</sup> IC 14-10-2-6.

<sup>50</sup> IC 4-21.5-4-5.

<sup>51</sup> IC 4-21.5-4-1.

<sup>52</sup> IC 14-25-4-11.

<sup>53</sup> IC 4-21.5-1-15.

<sup>54</sup> IC 4-21.5-7.

<sup>55</sup> IC 14-10-2-2 and IC 14-10-2-3.

<sup>56</sup> IC 16-19-2-4.

The AOPA outlines a review process that is similar to civil proceedings though somewhat less formal. An administrative law judge (or the ultimate authority, if acting without the assistance of an administrative law judge) performs a variety of functions. Included are the conduct of pre-hearing conferences, consideration of petitions for intervention, case disposition upon summary judgment or by default or dismissal, supervision of discovery, and subpoena of witnesses for attendance at hearing. Ethical standards apply, including a prohibition against unlawful *ex parte* communications between the parties and the administrative law judge (or the ultimate authority).<sup>57</sup>

Several sections apply to conduct of the hearing. A party may participate in any hearing and may employ an attorney to assist with representation.<sup>58</sup> A party or witness who cannot speak or understand the English language is entitled to an interpreter.<sup>59</sup> The administrative law judge must notify the parties of the time and place of the hearing.<sup>60</sup> The administrative law judge shall conduct the hearing “in conformity with any pre-hearing order and in an informal manner without recourse to the technical, common law rules of evidence applicable to civil actions in the courts.” Testimony is given under oath. Witnesses are subject to cross-examination. “The administrative law judge may give nonparties an opportunity to present oral or written statements. If the administrative law judge proposes to consider a statement by a nonparty, the judge shall give all parties an opportunity to challenge or rebut it.”<sup>61</sup>

The administrative law judge is required to conduct “de novo review of evidence presented at administrative hearing, weighing evidence and reaching conclusion[s], rather than deferring to initial determination[s]” of the agency. “The administrative law judge (ALJ) is required to make findings based on evidence presented at hearing; this requires [the] ALJ to independently weigh evidence presented at hearing and to base recommendations exclusively on that record.” Findings must be based upon the kind of evidence that is substantial and reliable.<sup>62</sup> A party may take a final agency decision by the ultimate authority on “judicial review” to a civil court.<sup>63</sup>

“Final orders issued by an agency, following a completed proceeding under AOPA, must be made available by the agency for inspection and copying by the public. With respect to final orders rendered after 1987, the agency must also index them by name and subject-matter.” Final orders properly indexed may be relied upon by the agency as precedents.<sup>64</sup> An example of an indexed compilation of final orders is CADDNAR as approved by the NRC.<sup>65</sup> Additional requirements apply<sup>66</sup> to administrative decisions pertaining to the environment, natural and cultural resources, and professional licenses. In these areas, an administrative law judge must “consider prior orders (other than negotiated orders) of the ultimate authority under the same or similar circumstances,” if a party references those prior orders in writing. The administrative law judge “must state the reasons for deviations from those prior orders.”<sup>67</sup> This requirement applies to decisions by the Office of Environmental Adjudication and the NRC (or its administrative law judges), as well as those by some professional licensing boards.

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<sup>57</sup> IC 4-21.5-3.

<sup>58</sup> IC 4-21.5-3-15.

<sup>59</sup> IC 4-21.5-3-16.

<sup>60</sup> IC 4-21.5-3-17.

<sup>61</sup> IC 4-21.5-3-25.

<sup>62</sup> *DNR v. United Refuse Co., Inc.*, 615 N.E.2d 100 (Ind. 1993).

<sup>63</sup> IC 4-21.5-5.

<sup>64</sup> IC 4-21.5-3-32.

<sup>65</sup> *Establishment of Division of Hearings; Indexing of Final Adjudicative Agency Decisions; Transcript Fees*, Information Bulletin 1, Natural Resources Commission, 13 IND. REG. 1938 (July 1, 1990).

<sup>66</sup> The additional requirements were added by Ind. P.L. 25-1997.

<sup>67</sup> IC 4-21.5-3-27.



The IURC is required in “all controversial proceedings heard by it” to serve as “an impartial fact-finding body” that renders impartial orders. The IURC is not a party, and the parties submit all evidence. If the IURC believes the public interest is not otherwise being adequately represented, the Utility Consumer Counselor may be directed to appear and represent the public.<sup>68</sup> The Utility Consumer Counselor may, on its own initiative, elect to appear on behalf of ratepayers, consumers, and the public in hearings before the IURC.<sup>69</sup> Notice of public hearings conducted by the IURC must be published in two newspapers of general circulation in the county where the affected persons live. In addition, the IURC mails notice of the hearing to persons with competitive interests and to any affected city or town.<sup>70</sup> Judicial review of a decision by the IURC is taken to the Court of Appeals of Indiana.<sup>71</sup>

### **Informal Dispute Resolution**

For civil actions, the Indiana Supreme Court recognizes several alternative dispute resolution methods. These are settlement negotiations, arbitration, mediation, conciliation, facilitation, mini-trials or mini-hearings, summary jury trials, private judges and judging, convening or conflict assessment, neutral evaluation and fact-finding, multi-door case allocations, and negotiated rulemaking.<sup>72</sup> Standards and procedures are set for several of these methods, including mediation<sup>73</sup> and arbitration.<sup>74</sup>

The AOPA was amended in 1996<sup>75</sup> to authorize the ultimate authority for an agency to approve mediation as an appropriate means for dispute resolution of AOPA proceedings within the agency’s jurisdiction. For example, the NRC has approved the use of mediation under the AOPA.<sup>76</sup> Standards and procedures are set by statute,<sup>77</sup> and an agency may adopt rules to help implement mediation in the administrative context.<sup>78</sup> Although not governed by the AOPA, the IURC has adopted rules to implement mediation that are similar to the structure provided by the AOPA.<sup>79</sup>

### **Rules**

A “rule” is a state agency statement, designed to have “the effect of law,” that implements, interprets, or prescribes either a law or policy or the organization, procedure, or practice requirements of the agency. A rulemaking action is the process of formulating or adopting a rule and must comply with IC 4-22-2. Specifically excluded from rulemaking is an “agency action” subject to administrative adjudication.<sup>80</sup>

Before an agency informs the public of its intention to adopt a rule, the agency may solicit comments on any aspect of a proposed rulemaking action. For other than emergency rules, an agency must cause a “notice of intent” to adopt a rule to be published in the INDIANA REGISTER at least 30 days before publishing a proposed rule. The notice of intent must include an overview of the intent and scope of the

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<sup>68</sup> IC 8-1-1-5.

<sup>69</sup> See generally IC 8-1-1.1. The Utility Consumer Counselor may also intervene on behalf of the public in appeals from the Indiana Department of State Revenue and INDOT. IC 8-1-1.1-4.1.

<sup>70</sup> IC 8-1-1-8.

<sup>71</sup> IC 8-1-3.

<sup>72</sup> Alternative Dispute Resolution Rule 1.1.

<sup>73</sup> Alternative Dispute Resolution Rule 2.

<sup>74</sup> Alternative Dispute Resolution 3.

<sup>75</sup> Ind. P.L. 16-1996.

<sup>76</sup> *Mediation and Facilitation in Proceedings before the Natural Resources Commission and the Department of Natural Resources*, Information Bulletin 13 (First Amendment), Natural Resources Commission, 22 IND. REG. 2942 (June 1, 1999).

<sup>77</sup> IC 4-21.5-3.5.

<sup>78</sup> IC 4-21.5-3.5-2.

<sup>79</sup> 170 IAC 1-4.

<sup>80</sup> IC 4-22-2-3.

proposed rule and the statutory authority for the rule. The agency is required to solicit comments from the public on the need for a rule, the drafting of the rule, or any other subject related to a rulemaking action.<sup>81</sup> The provisions that govern access to public records, discussed later in this document, are applicable beginning with publication of the notice of intent to adopt a rule.<sup>82</sup>

Following publication of the “notice of intent,” the agency prepares a rule draft and causes the draft to be published by the Legislative Services Agency in the INDIANA REGISTER as a “proposed rule.” The Code Revision Commission and the publisher of the INDIANA REGISTER set the format, numbering system, standards, and techniques for rule writing.<sup>83</sup> These are articulated in the Administrative Rules Drafting Manual.<sup>84</sup>

The provisions in IC 4-22-2 establish basic procedural rights and duties and may be supplemented by other statutes.<sup>85</sup> An example is that the rulemaking boards for IDEM must satisfy supplemental public notice requirements before giving a rule preliminary adoption. An IDEM board may not adopt a rule until the board has conducted at least two public comment periods, each of which must be at least 30 days long.<sup>86</sup> Notices of the public comment periods are published in the Indiana Register.<sup>87</sup>

When a proposed rule is published in the Indiana Register, it must be accompanied by a notice of at least one public hearing, a general description of the subject matter of the proposed rule, and an explanation that the proposed rule may be inspected and copied at the office of the agency. The notice must also be published in a newspaper of general circulation in Marion County, Indiana.<sup>88</sup> Particular statutory schemes may prescribe additional notice requirements. For example, for rules to govern boating activities at a particular site, notice of the time and place of any hearing must also be published in a newspaper of general circulation in the county where the site is located.<sup>89</sup>

The agency must convene any public hearing on the date and at the time and place stated in the notices. The hearing may be conducted in any informal manner that allows for an orderly presentation of comments and avoids undue repetition. The agency must afford any person attending a public hearing an adequate opportunity to comment on the proposed rule through the presentation of “oral and written facts and argument.”<sup>90</sup>

An agency must prepare a written response that contains a summary of the comments received during the rulemaking process. The written response is a public document that must be made available to interested persons upon request.<sup>91</sup> The entity within an agency charged with final rule adoption shall fully consider comments received during public hearing and may consider any other information before adopting the rule.<sup>92</sup>

The Indiana Economic Development Council may review and comment on any proposed rule and may suggest alternatives to reduce the regulatory burden the proposed rule will impose on businesses. The

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<sup>81</sup> IC 4-22-2-23.

<sup>82</sup> IC 4-22-2-17.

<sup>83</sup> IC 4-22-2-42.

<sup>84</sup> Approved and published by the Indiana Legislative Council (September 10, 1997).

<sup>85</sup> IC 4-22-2-14.

<sup>86</sup> IC 13-14-9-2.

<sup>87</sup> IC 13-14-9-3.

<sup>88</sup> IC 4-22-2-24.

<sup>89</sup> IC 14-15-7-4.

<sup>90</sup> IC 4-22-2-26.

<sup>91</sup> IC 4-22-2-23(d).

<sup>92</sup> IC 4-22-2-27.

agency that is considering adoption of the proposed rule must respond in writing to the Indiana Economic Development Council concerning the Council's comments or suggested alternative before rule adoption. If an agency estimates the economic impact of a proposed rule is greater than \$500,000 on the regulated entities, the agency informs the Legislative Services Agency. Before the rule can be adopted, the Legislative Services Agency is required to perform a fiscal analysis concerning the effect that compliance with the proposed rule will have on the State and the entities to be regulated by the rule.<sup>93</sup>

After an agency has complied with the publication and public review process for a proposed rule, the agency may adopt a rule that does not substantially differ from the form published in the Indiana Register. In addition, language that substantially differs may be approved if it is "a logical outgrowth" of the proposed rule and is supported by written comments received during the public comment period.<sup>94</sup>

A rule given final adoption by the agency is then submitted to the Attorney General for approval as to legality. In the review, the Attorney General determines whether the agency complied with the statutory rule adoption process and whether there is statutory authority for the rule. The Attorney General also considers whether the "adopted rule may constitute the taking of property without just compensation to an owner." If the Attorney General determines the agency does not satisfy legal requirements for rule adoption, the Attorney General may either disapprove the rule or return the rule to the agency for possible corrective action. If the Attorney General determines the rule may constitute an unconstitutional taking of property, the Attorney General advises the Governor and the agency. The Attorney General has 45 days to complete this review process.<sup>95</sup> The Attorney General also serves as the legal advisor to all agencies in the drafting and preparation of rules.<sup>96</sup>

A rule that is approved by the Attorney General is passed to the Governor, and the Governor may approve or reject the rule "with or without cause." The Governor has 15 days to perform the review but may extend the review period for an additional 15 days. When the Governor approves a rule, or the review period elapses without action, the rule is filed with the Secretary of State. The rule becomes effective 30 days after filing with the Secretary of State, unless a later effective date is stated in the rule.<sup>97</sup>

Several agencies also have authority to adopt emergency rules. Generally, an emergency rule is effective when filed by the agency with the Secretary of State, although a later effective date may apply by statute or be established in the rule. Typically, emergency rules are effective for not more than 90 days.<sup>98</sup>

### **Nonrule Policy Documents**

Other written statements developed by agencies must also be submitted for publication in the INDIANA REGISTER. These statements fall within two categories:

A statement that:

- Interprets, supplements, or implements a statute or rule;
- Has not been adopted as a rule;
- Is not intended by the agency to have the effect of law; and
- May be used in conducting the agency's external affairs.

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<sup>93</sup> IC 4-22-2-28.

<sup>94</sup> IC 4-22-2-31.

<sup>95</sup> IC 4-22-2-32.

<sup>96</sup> IC 4-22-2-22.

<sup>97</sup> IC 4-22-2-34, IC 4-22-2-35, and IC 4-22-2-36.

<sup>98</sup> IC 4-22-2-37.1.

A statement specifying a policy the agency relies upon to:

- Enforce a statute or rule;
- Conduct an audit or investigation to determine compliance with a statute or rule;
- Impose a sanction for violation of a statute or rule.

Included within these categories are information bulletins and other agency guidelines.<sup>99</sup>

These documents are published in the INDIANA REGISTER as “nonrule policy documents.” A few recent examples include: Income Eligibility Guidelines for the WIC/MCH/CSHC/Hoosier Healthwise Programs, Indiana State Department of Health, 22 IND. REG. 2724 (May 1, 1999); Phase II Acid Rain Permit 24 Month Application Requirement (326 IAC 21-1-1), AIR-023-NPD, Indiana Department of Environmental Management, 22 IND. REG. 3580 (August 1, 1999), and Caves and Karst Resource Management on Properties Owned or Leased by the Department of Natural Resources, Information Bulletin 25, NRC, 22 IND. REG. 3585 (August 1, 1999).

Additional requirements apply to nonrule policy documents approved by IDEM. Before approval, a nonrule policy document must be “presented to the appropriate board” for review. For example, a nonrule policy document directed to air quality standards would be reviewed by the Air Pollution Control Board. In addition, a nonrule policy document cannot be put into effect until 30 days after the policy is made available for public inspection and comment.<sup>100</sup>

Every agency that adopts a nonrule policy document is required to maintain a list of those used for its external affairs. The agency must update the list every 30 days.<sup>101</sup> Nonrule policy documents are also available on the websites for IDEM, the NRC, and many other agencies.

## **Ordinances**

Governing the adoption of local ordinances are the “home rule” statutes enacted in 1980<sup>102</sup> and codified at IC 36-1. Home rule applies to the adoption of ordinances by counties, municipalities, and townships.<sup>103</sup> Lake County, Porter County, LaPorte County, and a fraction of St. Joseph County are located within the direct Indiana watershed of Lake Michigan. A “municipality” is a city or town.<sup>104</sup> A “township” typically refers to a civil township.<sup>105</sup>

The general policy of the home rule statutes is to grant to counties, municipalities, and townships “all powers that they need for the effective operation of government as to local affairs.”<sup>106</sup> [Emphasis added.] The former rule of law, that doubt as to the existence of a power of these local entities is resolved against its existence, was abrogated. Instead, when adopting an ordinance, doubt as to the existence of a power is resolved in favor of a local entity.<sup>107</sup>

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<sup>99</sup> IC 4-22-7-7(a).

<sup>100</sup> IC 13-14-1-11.5.

<sup>101</sup> IC 4-22-7-7(c).

<sup>102</sup> Ind. Acts of 1980, P.L. 211.

<sup>103</sup> IC 36-1-3-1 reflects the home rule statutes apply to all “units.” A “unit” is defined at IC 36-1-2-23 to include counties, municipalities, and townships.

<sup>104</sup> IC 36-1-2-11.

<sup>105</sup> IC 36-1-2-22.

<sup>106</sup> IC 36-1-3-2.

<sup>107</sup> IC 36-1-3-3 and IC 36-1-3-4.

This blanket of authority to enact ordinances is limited in several instances where the authority may conflict with the prerogative of another entity, particularly another governmental entity. Most notably, local governments do not have the power “to regulate conduct that is regulated by a state agency, except as expressly granted by statute.”<sup>108</sup>

For example, a county cannot adopt an ordinance governing the siting of sanitary landfills because IDEM regulates the activity. “IDEM is required by statute to promulgate a state solid waste management plan, which must provide ‘[t]he establishment of general criteria for the siting, construction, operating, closing, and monitoring of final disposal facilities.’” Based on this limitation in the home rule statutes, a county ordinance, which included many of the same siting criteria as IDEM but which also included more restrictive criteria, was struck down.<sup>109</sup>

Similarly, an effort by the Town of Merrillville to regulate sewage treatment facilities operated by a conservancy district was struck down:

. . . [T]he Indiana Water Pollution Control Board “may adopt rules. . . that are necessary to the implementation of the Federal Water Pollution Control Act. . . .” Under the home rule statute, Merrillville is prohibited from regulating conduct that is regulated by a state agency.<sup>110</sup>

The Indiana Court of Appeals has also held a local ordinance is void if it conflicts with a state statute governing the same subject matter.<sup>111</sup>

This limitation to home rule does not apply if a state statute demonstrates a legislative intention that the scope of state regulatory authority be concurrent with local authority. A person licensed by DNR as a “game breeder”<sup>112</sup> argued unsuccessfully that a municipal ordinance was preempted by the existence of a state regulatory program. The municipal ordinance precluded the possession of an animal within town limits, if the animal was “capable of inflicting serious physical harm or death to human beings.” A federal court found animals held in captivity were specifically excepted by state statute from the class of “wild animal population” designated by the Indiana General Assembly for exclusive state management.<sup>113</sup>

A state regulatory structure may explicitly provide for joint state and local regulation. An illustration where standards are set by local ordinance, even though minimum regulatory standards are set at the state level, is flood plain management. The governing statutes require the NRC to develop and adopt rules “including consideration of nonconforming uses, as minimum standards for the delineation and regulation of all flood hazard areas within Indiana.”<sup>114</sup> Counties and municipalities are encouraged to enact ordinances to implement these standards, and except for ordinances adopted before 1974, they must “not

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<sup>108</sup> IC 36-1-3-8(a)(7). Other limitations on the ability of local government to enact ordinances, as set forth in IC 36-1-3-8, include the power to impose duties on another political subdivision, the power to impose a tax (except as expressly granted by statute), the power to prescribe a penalty for a crime or infraction, and the power to prescribe the law governing civil actions between private parties. As set forth in IC 36-1-3-5, local entities are also prohibited from exercising a power that contravenes the Indiana Constitution or a statute or which has been “expressly granted to another entity.”

<sup>109</sup> *Triple G Landfills v. Board of Com’rs of Fountain County*, S.D. Ind., 774 F. Supp. 528, 531-2, affirmed 977 F.2d 287.

<sup>110</sup> *Town of Merrillville v. Merrillville Conservancy Dist.*, Ind. App., 649 N.E.2d 645, 653 (1995), rehearing by the Indiana Court of Appeals denied; transfer to the Indiana Supreme Court denied.

<sup>111</sup> *Uhl v. Litter’s Quarry of Indiana, Inc.*, 179 Ind. App. 178, 384 N.E.2d 1099 (1979).

<sup>112</sup> Formerly IC 14-2-7-8. The individual was also licensed by the US Department of Agriculture under the Animal Welfare Act (7 USC 2131-2157)

<sup>113</sup> *DeHart v. Town of Austin, Inc.*, 39 F.3d 718 (1994). DeHart attached the town ordinance on a variety of state statutory and constitutional grounds, the home rule limitation being just one of a laundry list.

<sup>114</sup> IC 14-28-3-2.

be less restrictive than the minimum rules of the commission.”<sup>115</sup> The statute allows a county or municipality to adopt an ordinance that is “more restrictive than the minimum rules adopted by the commission.”<sup>116</sup>

The structure of home rule relative to state and local regulation is also harmonious with the broad judicial implementation of principles of statutory construction. Where there are conflicts between statutes regulating land and water uses, with one providing for state regulation and the other providing for local regulation, state regulation ordinarily prevails. For example, the Indiana Supreme Court was called upon to resolve an apparent conflict between the Flood Control Act (regulated at the state level to address state and regional concerns for natural resources) and the Drainage Code (regulated at the local level to address neighborhood drainage concerns). The court determined the Flood Control Act prevailed. “The legislature having decided that the policy of the state shall be regulation to protect our waters, we are reluctant to interpret the statute in a way which allows drainage boards to avoid the policy.”<sup>117</sup>

The regulation of activities, such as waste disposal, sewage disposal, and flood plain management, provide a regional benefit. These land and water use activities are regulated on a statewide rather than a local basis. The statewide regulatory programs preempt, or at least place parameters upon, the adoption of local ordinances to govern the same activities.

### **Public Access to Agency Records and Meetings**

The public policy of Indiana is that “all persons are entitled to full and complete information regarding the affairs of government and the official acts of those who represent them as public officials and employees. Providing persons with the information is an essential function of a representative government and an integral part of the routine duties of public officials and employees, whose duty it is to provide the information.”<sup>118</sup> The statutes governing public access to agency records are “liberally construed to implement this policy and place the burden of proof for the nondisclosure of public records on the public agency that would deny access to the record and not on the person seeking to inspect and copy the record.”<sup>119</sup>

“Public agency” and “public record” are both very broadly defined. “Public agency” includes any:

- board, commission, department, division, bureau, committee, agency, office, instrumentality, or authority exercising any part of the executive, administrative, judicial or legislative power of the State;
- county, township, school corporation, city, or town, or any board, commission, department, division, bureau, committee, office, instrumentality, or authority of any county, township, school corporation, city, or town, or another entity exercising in a limited geographical area the executive, administrative, judicial, or legislative power of the State or a delegated local governmental power;
- entity or office that is subject to budget review by the State Board of Tax Commissioners or the governing body of a local governmental entity or audit by the State Board of Accounts;
- building corporation of a political subdivision;
- advisory body created by statute, ordinance, or executive order to advise a governing body of a public agency (except medical staffs);
- law enforcement agency;

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<sup>115</sup> IC 14-28-3-3(a).

<sup>116</sup> IC 14-28-3-3(b).

<sup>117</sup> *Natural Resources Com'n of Indiana Dept. of Natural Resources v. Porter County Drainage Bd., Ind.*, 576 N.E.2d 587 (1990).

<sup>118</sup> IC 5-14-3-1.

<sup>119</sup> IC 5-14-3.

- license branch of the Bureau of Motor Vehicles; and,
- the State Lottery Commission, Indiana Gaming Commission, and Indiana Horse Racing Commission.

A “public record” means any writing, paper, report, study, map, photograph, book, card, tape recording, or other material that is created, received, retained, maintained, used, or filed by or with a public agency and which is generated on paper, paper substitutes, photographic media, chemically based media, magnetic or machine readable media, electronically stored data, or any other material, regardless of form or characteristics.<sup>120</sup>

The general principle is that a person may inspect and copy the public records of any public agency during the regular business hours of the agency. “No request may be denied because the person making the request refuses to state the purpose of the request, unless such condition is required by other applicable statute.”<sup>121</sup> Excepted from the general principle are the following records:

- those declared confidential by state statute;
- those declared confidential by rule where the adopting agency has “specific authority to classify public records as confidential,”
- those required to be kept confidential by federal law;
- trade secrets;
- confidential information received from a person (unless received by an agency pursuant to a state statute);
- research by an institution of higher education;
- grade transcripts and license examination scores obtained as part of a licensure process;
- those declared confidential by the Indiana Supreme Court; and,
- patient medical records.

In addition, an agency has limited discretion to protect some internally generated documents, such as the work product of an agency attorney or investigative records of a law enforcement officer.<sup>122</sup> Additional remedies regarding claims pertaining to trade secrets are provided in the Uniform Trade Secrets Act.<sup>123</sup>

The “Open Door Law”<sup>124</sup> governs public access to agency meetings. The official action of public agencies must “be conducted and taken openly, unless otherwise expressly provided by statute, in order that the people may be fully informed.” The Open Door Law is “to be liberally construed with the view of carrying out its policy.”<sup>125</sup>

“Public agency” and “meeting” are defined broadly. The definition for “public agency” is similar to the definition for the term used relative to public records. “Meeting” means a gathering of a majority of the governing body of a public agency for the purpose of taking official action upon public business. “Official action” means to: (1) receive information; (2) deliberate; (3) make recommendations; (4) establish policy; (5) make decisions; or, (6) take final action.<sup>126</sup>

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<sup>120</sup> IC 5-14-3-2.

<sup>121</sup> IC 5-14-3.

<sup>122</sup> IC 5-14-3-4.

<sup>123</sup> IC 24-2-3-1.

<sup>124</sup> IC 5-14-1.5.

<sup>125</sup> IC 5-14-1.5-1.

<sup>126</sup> IC 5-14-1.5-2.

Except for “executive sessions,” all meetings of the governing bodies of a public agency “must be open at all times for the purpose of permitting members of the public to observe and record them.” Secret ballot votes are prohibited.<sup>127</sup>

Public notice of the date, time, and place of any meeting, rescheduled meeting, or executive session must be given at least 48 hours in advance (excluding Saturdays, Sundays, and legal holidays) of the meeting. Notice is provided by placing a copy of the notice at the principal office of the public agency and mailing a copy of the notice to all news media making a request.<sup>128</sup> A copy of the agenda must also be posted at the entrance to the location of the meeting prior to the meeting. Amendments made by the Indiana General Assembly in 1999 also require Internet access through the agency’s website.<sup>129</sup> Memoranda of the meeting must be kept and made available within a reasonable time after the meeting for the purpose of informing the public of the governing body’s proceedings. Any minutes are to be open for public inspection and copying.<sup>130</sup>

Executive sessions may be held only in the following instances:

- where authorized by federal or state statute;
- for discussion of strategy relative to (A) collective bargaining, (B) litigation that is pending or threatened, (C) the implementation of security systems, or (D) the purchase or lease of real property;
- to conduct interviews with industrial or commercial prospects by state economic development agencies;
- to receive information about and interview prospective employees;
- to review employee or contractor status, placement, evaluation, or misconduct;
- the discussion of records classified as confidential;
- to consider the appointment of a public official; or,
- to prepare or score examinations.

Public notice of executive sessions must state the subject matter of those sessions. Final action may be taken only during a meeting open to the public.<sup>131</sup>

### **Other Environmental Review Procedures**

#### **Indiana Environmental Policy Act**

In 1972, the Indiana General Assembly declared a continuing policy of the State, in cooperation with the federal and local governments and other concerned public and private organizations, to use all practicable measures, including financial and technical assistance, to do the following:

- (1) Foster and promote the general welfare.
- (2) Create and maintain conditions under which humans and nature can exist in productive harmony.
- (3) Fulfill the social, economic, and other requirements of present and future generations of Indiana citizens.<sup>132</sup>

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<sup>127</sup> IC 5-14-1.5-3.

<sup>128</sup> IC 5-14-1.5-5.

<sup>129</sup> Ind. SEA 204 (1999) codified at IC 5-14-1.5-5(b).

<sup>130</sup> IC 5-14-1.5-4.

<sup>131</sup> IC 5-14-1.5-6.1.

<sup>132</sup> Acts of 1972, P.L. 98. Recodified by P.L. 1-1996 as IC 13-12-4.



This policy provides the foundation for what is sometimes called the “Indiana Environmental Policy Act” or “IEPA.” In it, the General Assembly directs the State “to use all practicable means, consistent with other essential considerations of state policy, to improve and coordinate state plans, functions, programs, and resources to the end that the State may do the following:

- (1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
- (2) Assure for all citizens of Indiana safe, healthful, productive, and esthetically and culturally pleasing surroundings.
- (3) Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.
- (4) Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice.
- (5) Achieve a balance between population and resource use that will permit high standards of living and a wise sharing of life’s amenities.
- (6) Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.”<sup>133</sup>

In addition, to the “fullest extent possible,” the “policies, rules, and statutes of the state shall be interpreted and administered in accordance with the policies” set forth in IEPA. All state agencies must do the following:

- (1) “Use a systematic, interdisciplinary approach that will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and decision making that may have an impact on the environment.”
- (2) “Identify and develop methods and procedures that will ensure that unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations.”
- (3) Include in every recommendation or report on proposals for legislation and other major state actions significantly affecting the quality of the human environment a detailed statement of (A) the environmental impact of the proposal; (B) any adverse impacts that cannot be avoided if the proposal is implemented; (C) alternatives to the proposed action; (D) the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; and, (D) any irrevocable and irretrievable commitments of resources that would be involved if the proposed action should be implemented. The Air Pollution Control Board, the Water Pollution Control Board, and the Solid Waste Management Board are directed to define by rule “the actions that constitute a major state action significantly affecting the quality of the human environment.”
- (4) Articulate appropriate alternatives to recommend courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources.
- (5) Recognize the long-range character of environmental problems and, where consistent with state policy, “lend appropriate support to initiatives, resolutions, and programs designed to maximize state cooperation in anticipating and preventing a decline in the quality of the environment.”
- (6) “Make available to counties, municipalities, institutions, and individuals advice and information useful in restoring, maintaining, and enhancing the quality of the environment.”
- (7) “Initiate and use ecological information in the planning and development of resource oriented projects.”<sup>134</sup>

The Water Pollution Control Board, the Air Pollution Control Board, and the Solid Waste Management Board, have adopted substantively identical rules for the implementation of IEPA. The rules include the

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<sup>133</sup> IC 13-12-4-4.

<sup>134</sup> IC 13-12-4-5.

applicability and purpose, as well as environmental assessment forms. Environmental impact statements are addressed also.<sup>135</sup>

IEPA is not identical to its federal counterpart, the National Environmental Policy Act (NEPA). A notable distinction is that unlike NEPA, IEPA exempts permitting actions from the requirement that an environmental impact statement be prepared.<sup>136</sup> Language is included in IEPA, however, that cross-references NEPA. Also, the Indiana Court of Appeals has observed that IEPA “in parts parallels” NEPA “almost verbatim.”<sup>137</sup> One consequence is that IDEM rulemaking boards are required to take into account factors listed in IEPA before adopting rules regarding the environment.<sup>138</sup>

### Environmental Citizen Suit Act

The Attorney General, a local unit of government, a “citizen of Indiana,” or another person maintaining an office in Indiana may bring an environmental citizen suit. The suit may seek “declaratory and equitable relief in the name of the state of Indiana” against anyone to protect the “environment of Indiana from significant pollution, impairment, or destruction.”<sup>139</sup> A prerequisite to civil action, for what is sometimes called the “Environmental Citizen Suit Act” or “ESCA,” is that the claimant must provide notice of intent to IDEM, DNR, and the Attorney General.<sup>140</sup> The ESCA action may be pursued if action is not taken within 90 days or not diligently pursued.<sup>141</sup> In addition, the ESCA authorizes an individual to intervene in an administrative proceeding or during judicial review.<sup>142</sup>

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<sup>135</sup> The IEPA rules of the Air Pollution Control Board are codified at 326 IAC 16. Those of the Water Pollution Control Board are found at 327 IAC 11, and those of the Solid Waste Management Board are found at 329 IAC 5.

<sup>136</sup> IC 13-12-4-8.

<sup>137</sup> *Ind. State Highway Com'n v. Ziliak*, 428 N.E.2d 275, 281 (1981 Ind. App.).

<sup>138</sup> *Indiana Environmental Mgt. Bd. v. Indiana-Kentucky Elec. Corp.*, 393 N.E.2d 213 (1979 Ind. App.).

<sup>139</sup> IC 13-30-1-1.

<sup>140</sup> IC 13-30-1-2.

<sup>141</sup> IC 13-30-1-3. Action to review an ESCA disposition by an agency is typically taken to a civil court, but it may also be the subject of administrative review. See *Walton League v. Cedar Creek D.B. & DNR*, 2 Caddnar 3 (1985).

<sup>142</sup> IC 13-30-1-5.

## Matrix 5-1: Cross-reference of Procedural Framework Laws and Guidance Documents

Programs and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency*
Civil and Criminal Enforcement				
TRADITIONAL CIVIL ENFORCEMENT: The Attorney General is responsible for prosecuting and defending suits that are instituted by or against the State and its officers.	IC 4-6-1-6 IC 4-6-2-1 IC 4-6-3-2 IC 13-30-1	The Attorney General has charge of and directs the prosecution of all civil actions brought in the name of the State. In these civil actions, neither the State nor an agency may be required to file a bond. The Attorney General may also bring an action, for declaratory and equitable relief, in the name of the State for the protection of the environment of Indiana.	Office of Attorney General State House, Rm. 219 Indianapolis, IN 46204 (317) 232-6201	
ENVIRONMENTAL CIVIL ACTIONS: The State or a private person may bring an environmental legal action against a person who caused or contributed to the release of a hazardous substance or petroleum in the surface or subsurface soil or groundwater.	IC 13-30-9-2 IC 13-30-9-3	The State or private person must show the release poses a risk to human health and the environment to recover reasonable costs of a removal or remedial action.	An individual suit may be monitored in the circuit or superior court where the suit is filed.	
TRADITIONAL CRIMINAL ENFORCEMENT: Enforcement of crimes, which include felonies and misdemeanors, are generally the responsibility of each county's prosecuting attorney. Crimes are defined in the criminal code or in particular statutes.	IC 35-14-1-14 IC 35-42 through IC 35-46	Criminal provisions are generally categorized as in the criminal code as offenses against: (1) the person; (2) property; (3) public administration; (4) public health, order, and decency; and, (5)	County Prosecutor	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
		miscellaneous offenses.  Examples of particular statutes defining crimes include IC 13-30-6-1 and IC 14-22-38.		
<b>Pre-Permit Hearings</b>				
PRE-PERMIT HEARINGS: Opportunities for public input are made available for activities such as agency permits through hearings.	IC 13-15-3 IC 8-23-2-17 IC 14-11-4 IC 14-21-1-17	Agencies governing permitted activities may have individual standards governing procedures for noticing and conducting public hearings. As an example, statutes are provided which govern a few agencies.	There are numerous of pre-permit hearing mechanisms. These are typically administered through the division within an agency that issues the permits.	
<b>Administrative Adjudication</b>				
AOPA AGENCIES: The AOPA applies to IDEM, DNR, ISDH, and INDOT. IURC is exempted from AOPA and governed by a separate statute.	IC 4-21.5-2-4	The AOPA governs the review of permits, sanctions, and other orders issued by state agencies.	For IDEM reviews: Office of Environmental Adjudication 150 West Market Indianapolis, IN 46204  For DNR reviews: NRC Division of Hearings 402 W. Washington St., Rm. 272 Indianapolis, IN 46204  For other agencies: Contact the main office of the agency.	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
GENERAL APPLICATION: The AOPA applies to any agency action and provides review from permitting and enforcement decisions of the agencies.	IC 4-21.5-1-4	The substantive law under review provides the standards and criteria. The nature of the review is hearing de novo.	See contacts listed immediately above.	
<p>PERMITTING: The AOPA governs the administrative review of permits, provides for public notification and participation during the permit and permit-renewal process, governs the conduct among parties involved in an AOPA proceeding, and creates minimum procedural rights and imposes minimum procedural duties.</p> <p>Permits and permit-renewals that might be of public interest require notice to: (1) the permit applicant; (2) each person to whom another law requires notice to be given; (3) each competitor for a mutually exclusive license; (4) each person who has provided the agency with a written request to be notified of the order, if the request describes the order with reasonable particularity and is delivered to the agency at least seven days before the order is to be issued; (5) each person who has a substantial and direct proprietary interest in the subject of the order; and, (6) each person needed for just adjudication.</p>	<p>IC 4-21.5-1-11 IC 4-21.5-2-1 IC 4-21.5-3-4 IC 4-21.5-3-5</p>	<p>AOPA applies broad noticing requirements and public participation procedures for agency permitting processes. Notice and participation requirements for permits identified in IC 4-21.5-3-4 are identified in the substantive statutes.</p> <p>The substantive law under review provides the standards and criteria. The burden of proving entitlement to a permit is placed on the applicant.</p>	See contacts listed above.	
ENFORCEMENT: The AOPA governs the review of agency enforcement actions. In some instances, enforcement actions	IC 4-21.5-3-6 and 8	The substantive law under review provides the standards and criteria. The burden of	See contacts listed above.	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
are effective only where the agency establishes the averments of a “complaint.” In other instances, the agency delivers the enforcement action directly to the recipient, and the recipient must seek request review of the sanction.		proving the sanction is placed upon the agency.		
EMERGENCY AND TEMPORARY ORDERS: The AOPA governs emergency and temporary orders established by an agency. AOPA emergency and temporary orders may be used where an emergency exists or a statute authorizes its use. An order cannot be effective for more than 90 days unless extended in the context of a full proceeding on the merits.	IC 4-21.5-4	The substantive law under review provides the standards and criteria. The burden of proving an emergency order is improper is placed on the person seeking to set the order aside.	See contacts listed above.	
PROCEDURES: The AOPA outlines a review process including procedures for preparing for and conducting a hearing. Specific procedures to be used for noticing interested parties and procedures used during pre-hearings and hearings are outlined in the statute. The statutory procedures have been supplemented by rule for actions before the Office of Environmental Adjudication and before the NRC Division of Hearings. Final orders following review pursuant to the AOPA are subject to judicial review by a circuit or superior court.	IC 4-21.5-1-15 IC 4-21.5-3-15 through 17 IC 4-21.5-3-25 IC 4-21.5-5  315 IAC 1 (OEA)  312 IAC 3-1 (NRC Hearings)	The substantive law under review provides the standards and criteria. The mechanisms for consideration of those standards and criteria are set forth in the AOPA (and agency rules to assist in the administration of the AOPA).	See contacts listed above.	
ADMINISTRATIVE PRECEDENTS: Each agency is required by AOPA to index	IC 4-21.5-3-27 IC 4-21.5-3-32	Final orders for decisions issued after 1987 are to be indexed by	See contacts listed above.	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
and make all written final orders available to the public.		name and subject. Only final orders properly indexed and made available to the public may be relied upon by the agency as precedents. OEA and NRC Hearings are also required to specifically address, in any final decision, the precedents cited by parties as being applicable to a case.		
IURC: The IURC serves as an impartial fact-finding body for all controversial proceedings within its jurisdiction. The Utility Consumer Counselor may appear for ratepayers, consumers, and the public in these proceedings. Based upon the evidence received during the hearing process, an administrative law judge makes recommendations to the IURC for final disposition. Decisions of the IURC are subject to review by the Court of Appeals of Indiana.	IC 8-1-1 IC 8-1-1.5 170 IAC 1	The substantive law under review provides the standards and criteria. The mechanisms for review are set forth in IC 8-1 and supplemented by rule at 170 IAC 1.	Utility Regulatory Commission 302 W. Washington St., Rm. E306 Indianapolis, IN 46204  Office of Utility Consumer Counselor 100 North Senate Ave., Rm. 501 Indianapolis, IN 46204	
<b>Informal Dispute Resolution</b>				
CIVIL: For civil actions the Indiana Supreme Court recognizes several alternative dispute resolution methods.	Alternative Dispute Resolution Rules 1.1, 2, and 3	A variety of methods are recognized and standards and procedures are set for many of the methods including mediation and arbitration.	Indiana Supreme Court 313 State House Indianapolis, IN 46204	
ADMINISTRATIVE: The ultimate authority of an agency is authorized to approve mediation as a means for dispute	Ind. P.L. 16-1996 IC 4-21.5-3.5	Standards and procedures are set by statute and an agency may adopt rules to help implement	See addresses for OEA and NRC Hearings above (or the main	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
resolution of AOPA proceedings within the agency's jurisdiction.		mediation in the administrative context.	office of another agency)	
<b>Rules</b>				
APPLICATION: A rule is a state agency statement, designed to have the effect of law, that implements, interprets, or prescribes either a law or policy or the organization, procedure, or practice requirements of the agency	IC 4-22-2-3	The process of formulating or adopting a rule must comply with IC 4-22-2. An agency action subject to administrative adjudication is excluded from rule making.	The agency authorized by statute to adopt rules to for its administration.	
DRAFTING: Public participation is solicited in rulemaking actions.	IC 4-22-2	(1) An agency must publish a public notice of intent in the INDIANA REGISTER at least 30 days before publishing a proposed rule, and solicit comments. (2) The proposed rule must be published in the INDIANA REGISTER. Additional public notice opportunities may be established by other statutes.	See immediately above.	
PUBLIC REVIEW: Opportunities are provided for public comment during the rulemaking process.	IC 4-22-2-23(d) IC 4-22-2-24 IC 4-22-2-26 IC 4-22-2-27	(1) When a proposed rule is published in the INDIANA REGISTER it must be accompanied by at least one public hearing. (2) The agency must allow any person attending the hearing an adequate opportunity to comment on the proposed rule. (3) The agency must prepare a written response that contains summary of the comments received during the rulemaking process. (4) The	See immediately above.  Indiana Economic Development Council, Inc. One North Capitol Avenue Indianapolis, IN 46204	



<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
		Indiana Economic Development Council may review and comment on any proposed rule and suggest alternatives to reduce the regulatory burden the proposed rule will impose on businesses. (5) The Legislative Services Agency must prepare a fiscal analysis concerning the effect compliance with the proposed rule will have on the State and the entities to be regulated by the rule.		
FINAL ADOPTION: After the public review process, an agency may adopt a rule.	IC 4-22-2-22 IC 4-22-2-31 IC 4-22-2-32 IC 4-22-2-34 through 36	A rule adopted by an agency is submitted to the Attorney General for approval as to legality. The Attorney General has 45 days to complete the review process.  The rule is forwarded to the Governor for review. The review period is 15 days. When the rule is approved, or the review period lapses without action, the rule is filed with the Secretary of State. After 30 days, the rule is effective.	Indiana Attorney General 219 State House Indianapolis, IN 46204  Governor of Indiana 206 State House Indianapolis, IN 46204	
EMERGENCY OR TEMPORARY RULES: Several agencies have authority to adopt emergency rules.	IC 4-22-2-37.1	An emergency rule is generally effective when filed by the agency with the Secretary of State. Emergency rules are	See immediately above.	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
		typically only effective for 90 days.		
<b>Nonrule Policy Documents</b>				
NONRULE POLICY DOCUMENTS: Written statements developed by agencies, not formulated and adopted as a rule, are submitted for publication in the INDIANA REGISTER.	IC 4-22-7-7(a)	There are two categories of nonrule policy documents. (1) A statement that (A) interprets, supplements, or implements a statute or rule; (B) has not been adopted as a rule; (C) is not intended by the agency to have the effect of law; and, (D) may be used in conducting the agency's external affairs. (2) A statement specifying a policy the agency relies upon to: (A) enforce a statute or rule; (B) conduct an audit or investigation to determine compliance with a statute or rule; (c) impose a sanction for violation of a statute or rule. Included within these categories are information bulletins and other agency guidelines. Each agency that adopts a nonrule policy document is required to maintain a list of those used for its external affairs.	The agency adopting the nonrule policy document	
<b>Ordinances</b>				
ADOPTION AND IMPLEMENTATION OF LOCAL ORDINANCES: Local ordinances are governed by the "home rule" statutes.	IC 36-1	(1) Local governments do not have the power to regulate conduct that is regulated by a	The local unit of government adopting the ordinance.	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
Counties, municipalities, and townships are granted all the powers they need for the effective governing of local affairs.		state agency unless granted by statute. (2) Joint state and local regulation may be structured by state law. (3) When a state law and a local ordinance govern the same activity, the ordinance yields to state law.		
<b>Public Access to Agency Records and Meetings</b>				
AGENCY RECORDS: All persons are entitled to complete information regarding the affairs of the government and the official acts of those who represent them as public officials.	IC 5-14-3	Generally, a person may inspect and copy the public records of any public agency during the regular business hours of the agency. The burden of proof for the nondisclosure of public records is placed on the agency that denies access to the record. Limited discretion to protect some internally generated documents is provided to the agency.	The state agency in possession of the public record	
AGENCY MEETINGS: The “Open Door Law” governs public access to agency meetings.	IC 5-14-1.5	Official actions of public agencies must be conducted openly unless expressly provided by statute. Members of the public are permitted to observe and record the meetings. Secret ballot votes are prohibited. Public notice of any meeting must be provided at least 48 hours in advance.	The state agency conducting the meeting	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
Other Environmental Review Procedures				
IEPA: The State is directed to improve and coordinate state plans, functions, programs, and resources.	IC 13-12-4	All state agencies must: (1) "Use a systematic, interdisciplinary approach that will ensure the integrated use of the natural and social sciences and the environmental design arts in planning and decision making that may have an impact on the environment." (2) "Identify and develop methods and procedures that will ensure that unquantified environmental amenities and values may be given appropriate consideration in decision making along with economic and technical considerations." (3) Include in every recommendation or report on proposals for legislation and other major state actions significantly affecting the quality of the human environment a detailed statement of (A) the environmental impact of the proposal; (B) any adverse impacts that cannot be avoided if the proposal is implemented; (C) alternatives to the proposed action; (D) the relationship between local short-term uses of the environment and the maintenance and enhancement	The state agency administering a program	

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency*</b>
		of long-term productivity; and, (D) any irrevocable and irretrievable commitments of resources that would be involved if the proposed action should be implemented. (4) Articulate appropriate alternatives to recommend courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources. (5) Recognize the long-range character of environmental problems and, where consistent with state policy, “lend appropriate support to initiatives, resolutions, and programs designed to maximize state cooperation in anticipating and preventing a decline in the quality of the environment.” (6) “Make available to counties, municipalities, institutions, and individuals advice and information useful in restoring, maintaining, and enhancing the quality of the environment.” (7) “Initiate and use ecological information in the planning and development of resource oriented projects.”		
ENVIRONMENTAL CITIZEN SUIT ACT: A person may seek relief in the name of the	IC 13-30-1	The claimant must provide notice of intent to IDEM, DNR,	IDEM 100 North Senate Ave.,	

Programs and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency*
State of Indiana against anyone to protect the environment from significant pollution, impairment, or destruction.		and the Attorney General. The action may be pursued within 90 days if an agency does not take up the issue.	Rm. N1301 Indianapolis, IN 46204  DNR 402 W. Washington St., Rm. W256 Indianapolis, IN 46204  Indiana Attorney General 219 State House Indianapolis, IN 46204	

\*Federal consistency is sought for substantive laws. Because this section is directed to procedural rather than substantive laws, reference is not made here to federal consistency. A substantive law being applied or considered in the context of these procedures may, however, warrant application of principles of federal consistency.

## **Section 5-2: Coastal Hazards**

Wind and waves have acted in concert over thousands of years to shape the southern shores of Lake Michigan, and continue to do so today. As natural processes continue, the human influence along the coast must be considered an element in coastal dynamics.

Levels of the Great Lakes fluctuate. Lake levels affect extent of flooding, shoreline erosion and shoreline property damage, wetland acreage, and depth of navigation channels. The changing lake levels present challenges for shoreline development. Structures such as seawalls or breakwaters have been constructed in the Lake or along the coast to afford protection for industrial, residential, and commercial developments. These structures contribute to the alteration of the shoreline. What provides protection for one area of the coast can negatively affect another.

Most of Indiana's shoreline is protected by hard structures or preserved as natural landscape. There are few opportunities for new development but more for redevelopment. Decisions may be made at the local level through planning and zoning to establish criteria for shoreline structures. Setback requirements developed through local zoning can alleviate costs of maintenance and replacement of erosion control structures. Maintenance and replacement of erosion control mechanisms can also be according to uniform standards to ensure proper construction.

Erosion is another important natural process. Waves and water currents, generated by strong winds, transport sand along the shoreline, maintaining a balance between sand transport and sand deposition. Coastal erosion can be significantly increased when there are barriers to the natural sand transport (littoral drift) along the shore. Breakwalls have been constructed into waters which are too deep for sand to be transported naturally along the coast. At the same time, areas along the shore have been protected with hard structures such as bulkheads, seawalls, or groins, preventing sand at the coastline from contributing to littoral drift.

Beach nourishment is one way to replenish a sand-starved shoreline with sand it is no longer able to receive naturally. New funding mechanisms for beach nourishment, however, must continually be found. Recently, beach nourishment has involved the recycling of dredged materials. The use of dredge materials can be complex due to the potential for contaminants in the sediments. This practice is made more complicated since consistent criteria for testing sediments have not been established for the State.

Lake Michigan is Indiana's largest navigable water. The following section outlines the laws and guidance documents as well as local ordinances that govern activities involving navigable waters.

### **Managed Activities**

- Delineating the physical boundaries of navigable waters.
- Construction along the Lake Michigan coast and other navigable waterways.

## Background

### Common Law of Riparian Rights and Navigability

The backdrop to the law of coastal hazards rests with common law and has ancient Roman roots. Riparian is derived from the Latin word *ripa*, meaning the bank of a stream. The phrase “riparian rights” was traditionally used to describe a bundle of rights concerning the relation of the owner of a stream bank or river bank to various opportunities provided by the river or stream. In many jurisdictions, including Indiana, riparian has also come to identify those rights adjacent to lakes as well, although the traditional term “littoral rights” is still sometimes used for Lake Michigan.

The bundle of riparian rights includes at common law:

- (1) Access to the water.
- (2) The placement and maintenance of wharves and piers.<sup>1</sup>
- (3) The use of water without transforming it.
- (4) The consumption of a fair share of the water.
- (5) The acquisition of soils accumulated through natural accretions and relictions.
- (6) For non-navigable waters, the right to ownership of the bed.<sup>2</sup>

Each of these riparian rights can form the basis of private common law claims. Those bearing most directly upon coastal hazards are those bearing upon the placement of wharves and piers and those bearing upon the acquisition of soils accumulated through natural accretions and relictions. Indiana courts may enjoin the placement of a pier or wharf if the placement would constitute a nuisance.<sup>3</sup> A pier may also be ordered removed if it interferes with the usage of a neighboring riparian owner’s property.<sup>4</sup> Generally, the process of accretion, reliction, and erosion carry the boundary of the landowner along with the change, a principle accepted in Indiana and sometimes called the “doctrine of accretion.”<sup>5</sup>

The usual remedies for the protection and enforcement of rights in respect of real property are available to the loss of land through erosion. A landowner who suffers a loss as a result of the wrongful activities of another may successfully maintain a civil action for damages. Access to these remedies may be lost if they are not timely enforced. If a change is made to a natural waterway through the construction of an artificial structure, and a riparian owner fails to protest the change, the acquiescence may later preclude restoration of the water to its prior condition.<sup>6</sup>

Related concepts of navigation and navigability are also founded in ancient common law. The Indiana Supreme Court had addressed the subject of navigability in 1833 in *Cox v. State*<sup>7</sup> where an individual was prosecuted for maintaining a mill dam across a river which blocked navigation. The Court upheld the right of the state to remove the obstruction, based on jurisdiction over “navigable waters” as set forth in the Northwest Ordinance of 1787. The ordinance originally declared:

The navigable waters leading into the Mississippi and the St. Lawrence, and the carrying places between the same, shall be common highways and forever free, as well to the inhabitants of said territory as to the

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<sup>1</sup> The general right to maintain piers, docks, and wharves is also reflected in Indiana by statute at IC 14-29-1-4.

<sup>2</sup> See, for example, 1 Beck, *Riparianism*, WATERS AND WATER RIGHTS §6.01(a) (1991).

<sup>3</sup> *Laughlin v. Lamasco City*, 6 Ind. 223 (1855).

<sup>4</sup> *Bath v. Courts*, Ind. App., 459 N.E.2d 72 (1984).

<sup>5</sup> Beck, *Riparianism*, WATERS AND WATER RIGHTS §6.03(b)(2) (1991), citing in Indiana to *Bath v. Courts*.

<sup>6</sup> *Burk v. Simonson*, 104 Ind. 175, 2 N.E. 309, 54 Am. Rep. 304 (1855).

<sup>7</sup> *Cox v. State*, 3 Blackf. 193 (1833).



citizens of the United States and those of any other states that may be admitted into the Confederacy, without any tax, impost or duty therefore.

The Cox decision interpreted the Northwest Ordinance of 1787 to mean Indiana was prohibited from converting navigable waters to other than “public highways, and from obstructing them with any artificial obstruction, and from levying any tax, impost, or duty on any of those citizens who may navigate them.”

An 1870 federal decision articulates modern concepts of navigability. The U.S. Supreme Court stated in *The Daniel Ball* that a river once navigable in fact is navigable in law. Second, the decision concluded that a waterway need only be “susceptible” for commercial usage to be legally navigable.<sup>8</sup>

Not until 1950 did the Indiana Supreme Court implement the principles of *The Daniel Ball*. In what is still the landmark decision of Indiana navigable waters law, the Court declared in *State v. Kivett*<sup>9</sup> that the test for determining navigability is whether a river or lake “was available and susceptible for navigation according to the general rules of river transportation at the time Indiana was admitted to the Union [1816]. It does not depend on whether it is now navigable. . . . The true test seems to be the capacity of the stream, rather than the manner or extent of use. . . . [T]he mere fact that the presence of sandbars or driftwood or stone, or other objects, which at times render the stream unfit for transportation, does not destroy its actual capacity and susceptibility for that use.”

The controversy in *Kivett* was focused upon ownership of a river bed from which the defendant was removing materials. If the river was navigable in 1816, title to the bed passed to the State of Indiana and could not be conveyed incident to the adjoining riparian property. If non-navigable, title passed to the adjacent property owners. Upon the facts, the Court affirmed a lower court decision which found the river to be navigable.

The Court in *Kivett* also noted that “since the effect upon title to [the river bed] is the result of federal action in admitting a state to the Union, the question, whether the waters within the state under which the lands lie are navigable or non-navigable, is a federal” question and is “determined according to the law and usage recognized and applied in the federal courts, even though, . . . the waters are not capable of use for navigation in interstate or foreign commerce.” In essence, *Kivett* determined both interstate and Indiana intrastate navigability is founded upon federal common law.

The provision in *The Daniel Ball* (and restated in *Kivett*) that a waterway needs only to have been “susceptible” to navigation in 1816 has several consequences. The most important of these was stated in *United States v. United States Steel Corporation*.<sup>10</sup> At issue was the legal navigability of the Grand Calumet River in Lake County for an area no longer conducive to commercial shipping. The court found that a river does not lose its character of legal navigability even though no longer actually used for commercial navigation. “Once found to be navigable, the water remains so.” A similar result was reached last century for the St. Joseph River. A river in fact navigable, although used infrequently or no longer used for purposes of commercial navigation, remains legally navigable.<sup>11</sup>

Stated in the simplest of terms: An Indiana river or lake which was capable of commercial navigation in 1816 is today legally navigable. What was then navigable in fact is now navigable in law.

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<sup>8</sup> *The Daniel Ball*, 77 U.S. (10 Wall.) 557, 563 (1870).

<sup>9</sup> *State v. Kivett*, 228 Ind. 629, 95 N.E.2d 145 (1950).

<sup>10</sup> *United States v. United States Steel*, 482 F.2d 439 (7th Cir. 1973).

<sup>11</sup> *Bissell Chilled Plow Works v. South Bend Mfg. Co.* (1916), 64 Ind. App. 1, 111 N.E. 932.

Several Indiana waterways in the Lake Michigan watershed have been determined to be navigable or nonnavigable. These were compiled by the Indiana Natural Resources Commission (NRC) in 1992<sup>12</sup> and were recently updated and placed on the Internet.<sup>13</sup> In addition to Lake Michigan, they include the Grand Calumet River from the Illinois State Line to Marquette Park, the Indiana Harbor and Ship Canal, the West Branch of the Little Calumet River to the Illinois State Line, the East Branch of the Little Calumet River to the LaPorte County Line, Portage Burns Waterway (also known as Burns Ditch), Trail Creek in Michigan City for one mile upstream from its mouth on Lake Michigan, the St. Joseph River in St. Joseph and Elkhart Counties, and Baugo Creek in St. Joseph County. Listed as nonnavigable is Wolf Lake.<sup>14</sup>

## **Implementation of Management Techniques**

### **Delineating the Physical Boundaries of Navigable Waters: the Ordinary High Watermark**

The boundary of jurisdiction with respect to a navigable waterway is its “ordinary high watermark.” A commentator for the Governor’s Water Resource Study Commission noted in 1980 that “federal cases have consistently held that the appropriate line of demarcation (in the absence of a contrary state boundary) is the high watermark, and Kivett declared that federal law must be applied to such issues.”<sup>15</sup>

The concept of “ordinary high watermark” finds its source in common law but has received legislative and regulatory refinement in recent years. The Indiana General Assembly used “ordinary high watermark” as the delineation of navigable waterways in a temporary statute governing utility line crossings.<sup>16</sup> The statute also defined the term “ordinary high watermark” to be “the line on the shore of a waterway that is: (1) established by the fluctuations of water; and (2) indicated by physical characteristics such as the following: (A) A clear and natural line impressed on the bank. (B) Shelving. (C) Changes in the character of the soil. (D) The destruction of terrestrial vegetation. (E) The presence of litter or debris.”<sup>17</sup>

A very similar definition for the ordinary high watermark of a navigable waterway is used by the ACOE and has been adopted by rule by the NRC. The latter definition also sets the ordinary high watermark for Lake Michigan at 581.5 feet I.G.L.D., 1985 (582.252 feet N.G.V.D., 1929). The ACOE uses the same elevation for the southern shore of Lake Michigan.<sup>18</sup>

Reduced to the most basic terms, the physical area of a navigable river or lake is what is included within its ordinary high watermark. Because water levels raise and lower periodically, the actual water’s edge at any particular time is likely to be inside or outside the legal boundaries of navigability. The practical result is that sandbars or portions of the banks of a river during a low-water period are likely to be within the ordinary high watermark and public domain. Similarly, beaches along Lake Michigan, which emerge during low-water periods, are public domain. Conversely, areas above elevation 581.5 feet, I.G.L.D.

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<sup>12</sup> *Roster of Indiana Waterways Declared Navigable*, 15 IND. REGISTER 2385 (July 1, 1992).

<sup>13</sup> The *Indiana Roster of Waterways Declared Navigable or Nonnavigable* may be found through the Indiana Natural Resources Commission Homepage and is located at <http://www.state.in.us/nrc/navigable/index.html>.

<sup>14</sup> The determination of non-navigability for Wolf Lake was based upon its description in *Mitchell v. Small*, 140 U.S. 406, 412 (1890) as a “non-navigable lake.” See also *State v. Forsyth*, 92 Ind. App. 513, 516, N.E. 661, 662 (1931) which notes the 1834 government plat for township 37 north, range 10 west, second principal meridian shows Wolf Lake as a “nonnavigable lake extending through section 1,” and states the “lake was then, and has remained ever since, nonnavigable.”

<sup>15</sup> Clark, *THE INDIANA WATER RESOURCE (AVAILABILITY, USES, AND NEEDS)*, 107 (1980).

<sup>16</sup> IC 14-28-2. This statutory chapter was superseded by a permanent rule on January 1, 1996 as codified within amendments to 310 IAC 6-1.

<sup>17</sup> IC 14-28-2-12.

<sup>18</sup> The natural resources commission ordinary high watermark for Lake Michigan is set forth at 312 IAC 1-1-26(2).

1985, along Lake Michigan are the private property of the riparian owner, even though inundated during periods of high water.

### **Construction Along the Lake Michigan Coast and Other Navigable Waters**

Since 1899, the ACOE has had broad permitting authority to control the placement of wharves, piers, breakwaters, jetties, and similar structures within the navigable waters of the United States.<sup>19</sup> The authority extends both to dredging and filling. Bridges and levees are also subject to control.<sup>20</sup> In the exercise of the authority, the ACOE conducts a public interest review and is entitled to consider pertinent factors other than navigability, including the environmental impact of a project.<sup>21</sup> Should the ACOE determine a project requires a permit under the Clean Water Act, a Section 401<sup>22</sup> water quality certification from IDEM is also necessary. A project requiring a permit from the ACOE under the Rivers and Harbors Act of 1899 might also need a Section 401 water quality certification.

The core of state regulation for activities along the ordinary high watermark or within Lake Michigan and other navigable waters is the Navigable Waterways Act.<sup>23</sup> Most persons must obtain a permit from the DNR under the Navigable Waterways Act to place fill or erect a permanent structure or to remove material.<sup>24</sup> In determining whether to grant a permit under the Navigable Waterways Act, the agency must consider whether the activity would unreasonably impair the navigability of the waterway, cause significant harm to the environment, or pose an unreasonable hazard to life or property.

Rules have been adopted to help implement the statute.<sup>25</sup> Prominent is a requirement that the DNR must consider, before issuing a permit subject to the Navigable Waterways Act, how the proposed construction project would impact the “public trust doctrine,” as well as the “likely impact upon the applicant and other affected persons, including the accretion or erosion of sand or sediments.”<sup>26</sup>

The Navigable Waterways Act and its accompanying rules have direct application to the construction of structures which have the intended or unintended result of affecting shoreline processes. The DNR is empowered and mandated, before issuing a permit, to evaluate how a construction activity is likely to contribute to accretion and erosion to the property of the applicant or to another person along Lake Michigan or another navigable waterway.

Homeowners, businesses, or municipalities contemplating construction along the Lake Michigan shoreline are encouraged to obtain technical assistance from the DNR Lake Michigan Specialist who is

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<sup>19</sup> Rivers and Harbors Appropriations Act of 1899 (33 USC 401, *et. seq.*). See particularly 33 USC 403. “Navigable waters of the United States” are those waters that connect with other waters to form a continuous interstate highway. *National Wildlife Federation v. Alexander* (1979), 198 U.S.App.D.C. 321, 613 F.2d 1054. As a practical matter, the Rivers and Harbors Act is often administered by the Army Corps and the EPA in concert with the Clean Water Act (specifically 33 USC 1344, “Section 404”). This association is so close, that in casual conversation, the Clean Water Act is sometimes mistakenly attributed with provisions of the Rivers and Harbors Act.

<sup>20</sup> 33 USC 401.

<sup>21</sup> *United States v. Members of the Estate of Boothby* (1994 CA1 Puerto Rico), 16 F.3d 19.

<sup>22</sup> 33 USC 1341.

<sup>23</sup> IC 14-29-1.

<sup>24</sup> IC 14-29-1-8(a). Public or municipal utilities are exempted.

<sup>25</sup> Effective October 11, 1997, the rules governing navigable waterways were recodified from 310 IAC 20 to 312 IAC 6. The recodified rules also included some new provisions.

<sup>26</sup> 312 IAC 6-1-1(f).

located in the DNR Lake Michigan Regional Office in Michigan City. The Lakeshore Protection Guide is a resource available to those proposing construction on inland lakes.<sup>27</sup>

Other Indiana statutory chapters address navigable waters primarily from a regulatory perspective. The extraction of sand and gravel from the beds of navigable waters is separately addressed.<sup>28</sup> There is a specific pronouncement that a channel connected to a navigable waterway be dedicated to public use.<sup>29</sup>

The Navigable Waterways Act's regulatory program contains a number of exemptions to minimize duplication of regulation. A separate permit under the Act is not required if a permit has been obtained under another regulatory program specified by statute. These are typically administered as a combined or joint permit also including the requirements of the Navigable Waterways Act.<sup>30</sup>

The Navigable Waterways Act itself anticipates subordination to certain federal permits.<sup>31</sup> A permit under the Navigable Waterways Act is not required if a project has obtained a permit under the federal: (1) Coastal Zone Management Act,<sup>32</sup> (2) Clean Water Act,<sup>33</sup> or, (3) Comprehensive Environmental Response, Compensation, and Liability Act.<sup>34</sup>

In addition to considering the impacts of new construction along the coast of Lake Michigan, recent laws look to the remediation of existing erosion concerns. A method for reducing or temporarily stopping excessive erosion of the natural coast is to provide a "man-made" beach and dune-bluff. Feeding sand to a coast is referred to as "beach nourishment." Beach nourishment works to reduce sand-starved conditions by supplying sand needed for waves and currents to rebuild and maintain the natural protective beach and sand bar system.<sup>35</sup>

Beach nourishment activities are encouraged through state statute. The "Sand Nourishment Fund"<sup>36</sup> provides a mechanism to protect and increase sand in Indiana along Lake Michigan. Coastal communities can obtain funds through their local state legislators which can then be used for: (1) the deposit of sand along the coast of Lake Michigan in Indiana; (2) the design and establishment of systems that cause sand to be deposited along the coast of Lake Michigan in Indiana; and, (3) the prevention or reduction of the degradation of sand along the coast of Lake Michigan in Indiana. The Sand Nourishment Fund currently has no regular source of revenue.

Under another state statute, the DNR may impose a royalty fee for the removal of materials dredged from the bed of Lake Michigan.<sup>37</sup> As an incentive, the NRC has by rule waived the royalty if the person

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<sup>27</sup> The Lakeshore Protection in Indiana Guide can be accessed at <http://www.state.in.us/dnr/soilcons/publications.htm> or by calling the DNR Division of Soil Conservation at (317) 233-3870.

<sup>28</sup> IC 14-29-3.

<sup>29</sup> IC 14-29-4.

<sup>30</sup><sup>30</sup> IC 14-29-1-8(d) specifies that two separate permits are not required where regulatory authority is conferred by the Navigable Waterways Act and another statute, but the permit must apply the requirements of the Navigable Waterways Act. Applicable statutes are IC 14-21-1, IC 14-28-1, IC 14-29-3, IC 14-29-4, IC 14-34, and IC 14-37.

<sup>31</sup> IC 14-29-1-8(c) through (e).

<sup>32</sup> 16 USC 1451 et seq.

<sup>33</sup> 33 USC 1344 et seq.

<sup>34</sup> 42 USC 9601 et seq.

<sup>35</sup> Indiana Department of Natural Resources, WATER RESOURCE AVAILABILITY IN THE LAKE MICHIGAN REGION, INDIANA, 54 (1994).

<sup>36</sup> IC 14-25-12.

<sup>37</sup> IC 14-29-3-2.

authorized to dredge agrees to place any suitable dredge materials along the Lake Michigan shoreline as beach nourishment for the beneficial use of the general public.<sup>38</sup>

Recently, the NRC adopted a rule to establish a general permit (sometimes called a “statewide permit”) for beach nourishment from sources landward of Lake Michigan. A person who qualifies for the general permit may place sand for beach nourishment on the Indiana Dunes National Lakeshore or Indiana Dunes State Park, either within or outside the ordinary high watermark, without obtaining a permit under the Navigable Waterways Act. Instead, the person wishing to use the general permit provides a letter to the agency. In the letter, the person provides information concerning the site of origin, the site of deposit, and other pertinent information such as testing performed on the sand. Unless the DNR responds within 14 days to require full permitting or to impose conditions on the terms of the deposit, the general permit is “deemed to have been approved and the person may proceed.”<sup>39</sup>

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<sup>38</sup> 312 IAC 6-5-8(b) provides an extraction is exempt from the royalty if the “mineral is authorized by the department for placement, and is lawfully placed” in Lake Michigan for beach nourishment.

<sup>39</sup> 312 IAC 6-6.

## Matrix 5-2: Cross-reference of Coastal Hazards Laws and Guidance Documents

Program or Activity	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
Delineating the Physical Boundaries of Navigable Waters				
IDENTIFYING NAVIGABLE WATERWAYS AND DELINEATING ORDINARY HIGH WATERMARK: A civil court or an agency with jurisdiction over navigable waterways (such as the ACOE, FERC, or NRC) generally identifies waterways as navigable. An ordinary high watermark provides a physical boundary within which the State is authorized to manage activities in and along navigable waterways.	State v. Kivett  312 IAC 1-1-24 312 IAC 1-1-26	Navigable Waterways: An Indiana river or lake which was capable of commercial navigation in 1816 is today legally navigable. What was then navigable in fact is now navigable in law.  Ordinary High Water mark: (1) Established by the fluctuations of water; and (2) indicated by physical characteristics such as the following: (A) A clear and natural line impressed on the bank. (B) Shelving. (C) Changes in the character of the soil. (D) The destruction of terrestrial vegetation. (E) The presence of litter or debris.	NRC, Division of Hearings 402 W. Washington St., Rm. W272 Indianapolis, IN 46204 (317) 232-4699	Not applicable.
Construction Along the Lake Michigan Coast and Other Navigable Waters				
NAVIGABLE WATERWAYS PERMIT PROGRAM: <sup>1</sup> A permit is required for	IC 14-29-1	(1) Whether the activity would unreasonably impair the navigability of	DNR, Division of Water	IC 14-29-1

<sup>1</sup> Additional information regarding the navigable waterways permit program, and the opportunity for electronic permit application filing can be accessed at <http://www.state.in.us/dnr/water>.

<b>Program or Activity</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
activities that place, fill, or erect a permanent structure in a navigable waterway; or remove water or material from a navigable waterway.	312 IAC 6  Roster of Indiana Waterways Declared Navigable  DNR APPLICATION ASSISTANCE MANUAL (1996)	the waterway; (2) cause significant harm to the environment; or, (3) pose an unreasonable hazard to life or property. In addition, impact of the activity on the “public trust doctrine,” and the likely affect the activity will have on others must be considered.  A navigable waterway permit is not required if a permit for the same project has been obtain under IC 14-21-1, IC 14-28-1, IC 14-29-3, IC 14-29-4, IC 14-34, or IC 14-37 and the requirements of the Navigable Waterways Act have been applied in the project review.	402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	312 IAC 6
EXTRACTION OF SAND AND GRAVEL FROM A NAVIGABLE WATERWAY: This activity is separately addressed under the Navigable Waterways Act and requires a permit to undertake this activity. In addition, a royalty fee may be assessed for materials dredged from Lake Michigan.	IC 14-29-3  312 IAC 6-5-8(b)	(1) Whether or not the project will impede navigation; (2) whether or not the project will damage or endanger a bridge, highway, railroad, public work, utility, or the property of a riparian owner or adjoining proprietor or adjacent permittee; and, (3) whether or not the project will endanger human lives.  A project subject to permit under this statute does not require a separate permit under the Navigable Waterways Act (IC 14-29-1) provided the Navigable Waterways Act evaluation criteria are applied as well.	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-29-3  312 IAC 6-5

<b>Program or Activity</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
CREATION OF A CONNECTING CHANNEL: A channel connected to a navigable waterway must be dedicated to public use.	IC 14-29-4	<p>(1) Whether or not the project will constitute an unreasonable hazard to life and property; (2) whether or not the project will result in undue effects upon the water level; (3) whether or not the project will result in undue effects upon fish and wildlife resources; and, (4) whether or not the project will adversely affect public health, safety, and welfare.</p> <p>Prior approval for sewage disposal facilities involved with the channel must be obtained from IDEM.</p> <p>A project subject to permit under this statute does not require a separate permit under the Navigable Waterways Act (IC 14-29-1) provided the Navigable Waterways Act evaluation criteria are applied as well.</p> <p>There are no exemptions for channels under this statute.</p>	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-29-4
SECTION 401 WATER QUALITY CERTIFICATION PROGRAM: Certification is required for an activity that may result in any discharge into navigable waters. Activities are reviewed for consistency with state water quality standards. The certification is required before permits sought under Section 404 of the Clean	33 USC 1341 IC 13-18-4-5 IC 13-13-5-1 327 IAC 2-1.5-5-4	Standards in the water quality rules are applied to the water quality certification program.	IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206-6015 (317) 233-8488	Section 401 water quality certification



<b>Program or Activity</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
Water Act and Section 10 of the Rivers and Harbors Act of 1899 are approved. See also section titled Natural Areas, Fisheries, Wildlife, and Native and Exotic Species.				
SAND NOURISHMENT FUND: Authorization for appropriation and use of funding dedicated by the legislature to protect and increase sand along the Indiana Lake Michigan coast.	IC 14-25-12	Funding can be used for (1) the deposit of sand along the coast of Lake Michigan in Indiana; (2) the design and establishment of systems that cause sand to be deposited along the coast of Lake Michigan in Indiana; and, (3) the prevention or reduction of the degradation of sand along the coast of Lake Michigan in Indiana. The Sand Nourishment Fund currently has no regular source of revenue.	Local state legislator.	Not applicable.
TECHNICAL ASSISTANCE FOR COASTAL CONSTRUCTION: Assistance is available from the DNR, Division of Water, for technical consultation on shoreline dynamics including lake levels, erosion, lake currents, and the impact of construction along the coast.	312 IAC 6-1-1(f)	Conditions evaluated include how a construction activity is likely to contribute to accretion and erosion to the properties at or near the proposed activity, as well as the impact to the public trust doctrine.	DNR, Division of Water Lake Michigan Specialist 100 W. Water St. Michigan City, IN 46360 (219) 874-8316	Not applicable.

## **Section 5-3: Water Quality**

As a result of the industrialization and urbanization of Northwest Indiana, water quality has been seriously degraded. The Clean Water Act, state programs, and efforts by industries and municipalities have greatly improved the quality of water over the last decade. At the same time, Northwest Indiana is still faced with major water quality challenges.

The Clean Water Act instituted the National Pollutant Discharge Elimination System (NPDES) which led to reduced discharges of pollutants by wastewater treatment facilities and industries. Yet this permit program only applies to pollutants which stem from an identifiable point source. Nonpoint source pollution is now a primary source of water quality impairment.

During the development of cities and towns, combined sewer systems were constructed to handle sanitary waste as well as stormwater. Rapid development has increased the amount of stormwater now handled by the sewer systems. Periodic discharges of sewage and stormwater into a receiving stream occur when the capacity of a wastewater facility is exceeded.

Although the frequency of pollutants blatantly discharged into the streams and lakes has been considerably reduced, the contaminants these waters received over the decades still remain in the accumulating sediments. Water in streams tends to be cleaner, but toxic materials may be buried within the sediment. Maintaining adequate water depths in ports and harbors is made more complex and more expensive due to these hidden contaminants.

Pollution emitted to the air by cars, industries, businesses, and homes have also lead to the degradation of water quality. Although these pollutants are emitted from an identifiable source, the transport of these pollutants by winds can turn air pollution into nonpoint source pollution. Air deposition of industrial pollutants has contributed to serious damage of natural resources in areas where industry does not exist.

Access to ports by commercial shipping was one reason for the successful development of Northwest Indiana. Lake Michigan is also a water resource enjoyed by many recreational boaters. Marinas have recently expanded providing more recreational opportunities. The discharge of sanitary waste and ballast water from large vessels and recreational watercraft can bring untreated wastewater to the shore. Laws governing wastewater discharges from commercial and recreational vessels are difficult to understand and may prove even more difficult to enforce.

Although water is abundant in Northwest Indiana, healthful living and economic success is dependent on clean water. This section explains how water quality is measured, monitored, and protected in Indiana.

### **Managed Activities**

- Processes, systems, or practices with the potential to result in water quality degradation.
- Activities involving public water supplies.
- Activities causing nonpoint or diffuse sources of water pollution.
- Activities affecting groundwater.

## Background

### Common Law and Statutory Origins

Each riparian owner along a waterway has an equal right to the water, but no one has the right to use the water to the material injury of another riparian owner.<sup>1</sup> This common law principle has its most obvious application to water quantity but is also a foundation for relief for damages to water quality. Pollution by an upper riparian owner has long been held to support a private civil action by a lower riparian owner. “Riparian rights essentially define the right to use—or, reasonably, pollute—the waters of a water course among riparian owners.”<sup>2</sup>

At least from the late 19th century, civil relief was also recognized for damages resulting from water pollution based upon theories of private nuisance or public nuisance. Examples where compensation was granted in Indiana include actions for offensive or unwholesome odors that restricted the beneficial use of water,<sup>3</sup> the loss of human potability, and the impairment of use by livestock.<sup>4</sup>

Even so, technological limitations and the demands of a growing urban population sometimes presented the courts with difficult issues. For example, riparian owners along Salt Creek were denied relief against the City of Valparaiso for pollution resulting from the daily discharge of 47,000 gallons of sewage. The Indiana Supreme Court concluded that because a pre-1896 sewerage system was mandated by statute, “skillfully executed and free from negligence,” and no other practical alternative was available for the disposal of the city’s waste, neither damages nor injunctive relief were appropriate.<sup>5</sup>

A notable water quality dispute arose in 1944 on southern Lake Michigan. Illinois and the City of Chicago filed suit against Indiana, 16 Indiana-based companies, and the cities of Gary, Hammond, East Chicago, and Whiting for alleged water pollution. The plaintiffs argued that pollution originating from Northwest Indiana was impairing the use of Lake Michigan as a water supply. A consent decree specifying corrective measures was entered in 1945, and the parties were determined to be in compliance by 1948.<sup>6</sup>

Private civil litigation remains an important element among the legal options available for addressing water pollution. Yet dissatisfaction with its adequacy as the only option has led to extensive legislation. Statutes have been enacted both at the federal and the state level.

The first significant Congressional enactment bearing upon water pollution was the Rivers and Harbors Act of 1890, written in response to a decision by the United States Supreme Court that the United States lacked common law to prohibit obstructions and nuisances in navigable waters.<sup>7</sup> The successor to this enactment was the Rivers and Harbors Act of 1899 that essentially re-enacted the prior law.<sup>8</sup>

The first effort by Congress specifically directed to water pollution was the Federal Water Pollution Control Act of 1948. In a declaration of policy, Congress recognized the importance of public health and

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<sup>1</sup> *Dilling v. Murray*, 6 Ind. 324 (Ind.1885).

<sup>2</sup> Grad, 2 TREATISE ON ENVIRONMENTAL LAW . 3.02 *Private Rights to Clean Water* (Matthew Bender 1983).

<sup>3</sup> *Muncie Pulp Co. v. Martin*, 55 N.E. 796 (Ind. 1899).

<sup>4</sup> *Indianapolis Water Co. v. American Strawboard Co.*, 53 F. 970 (1893).

<sup>5</sup> *City of Valparaiso v. Hagen*, 153 Ind. 337, 54 N.E. 1062 (Ind. 1899).

<sup>6</sup> U.S. Department of Health, Education and Welfare, Report on Pollution of the Waters of the Grand Calumet River, Little Calumet River, Calumet River, Lake Michigan, Wold Lake and Their Tributaries, Illinois-Indiana (1965).

<sup>7</sup> *Williamette Iron Bridge Co. v. Hatch*, 125 U.S. 1 (1888).

<sup>8</sup> 33 USC 401, *et seq.*

welfare and the primary responsibility of the states for addressing water pollution. Authority for water pollution control was placed in the Surgeon General with assistance from the Water Pollution Control Advisory Board. The primary enforcement mechanism to control water pollution was an abatement suit, with water pollution being declared a public nuisance. Amendments made in 1956 and 1965 developed a procedure to mandate the state establishment of water pollution control programs.

In 1972, Congress expanded the initiative into a more complex regulatory program to address water pollution. Substantial federal funding was provided for the construction and operation of publicly owned treatment facilities. Effluent limitations were developed, and the national pollutant discharge elimination system (NPDES) was established to address point source pollution. Regulations were also authorized to control nonpoint source pollution. The Federal Water Pollution Control Act was extensively amended in 1977. At that time, Congress renamed the program the “Clean Water Act.”<sup>9</sup>

The concept of state legislation directed to the control of water pollution has a longer history than sometimes acknowledged. For example, the Indiana General Assembly in 1905 made it unlawful to place any “putrid, nauseous, noisome or offensive substance” in a well, spring, or waterway.<sup>10</sup>

Major state water quality legislation was enacted in 1943 with the creation of the “Stream Pollution Control Board of the State of Indiana.” The board and its agencies were authorized to enter public or private property to inspect and investigate conditions “relating to the pollution of any water of this state.” The board was authorized “to determine what qualities and properties of water . . . indicate a polluted condition . . . that shall be deleterious to public health or to the prosecution of any industry or lawful occupation.” The board was also given authority to adopt rules to control the discharge of pollutants and given “the power to take appropriate steps to prevent any pollution.”<sup>11</sup>

In 1985, IDEM was created. The agency was to be “devoted entirely to the protection of the environment.” The stream pollution control board became the water pollution control board. The responsibility for most state and state-administered federal water pollution programs was placed in IDEM.<sup>12</sup>

## **Implementation of Management Techniques**

### **Regulation of Processes, Systems, or Practices with the Potential to Result in Water Quality Degradation**

The Indiana General Assembly has provided broad authority to protect against processes or systems likely to result in water quality degradation. As a general principle, a person may not throw, drain, allow to seep, or otherwise dispose of an organic or inorganic matter that contributes to the pollution of streams or waters of Indiana.<sup>13</sup>

The state agency primarily responsible for water quality protection is IDEM. IDEM is designated as the water pollution control agency for Indiana under the federal Clean Water Act<sup>14</sup> and the federal Safe

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<sup>9</sup> 33 USC 1251, *et seq.*

<sup>10</sup> Ind. Acts of 1905, ch. 169, § 553.

<sup>11</sup> Ind. Acts of 1943, ch. 214.

<sup>12</sup> P.L. 143-195.

<sup>13</sup> IC 13-18-4-5.

<sup>14</sup> 33 USC 1251, *et seq.*

Drinking Water Act.<sup>15</sup> IDEM may: (1) cooperate with federal agencies, state agencies, and other interested parties in all matters relating to water pollution, including the development of programs for eliminating or reducing pollution and improving the sanitary condition of waters; (2) apply for grants under the Clean Water Act; (3) approve projects under the Clean Water Act; (4) participate in proceedings under the Clean Water Act; (5) consent to the US Attorney General to bring suits to abate pollution; and, (6) consent to joinder as a defendant in a lawsuit seeking pollution abatement.<sup>16</sup>

While there is a clear legislative intent to make IDEM the state agency primarily responsible for water quality, other agencies share in this responsibility.<sup>17</sup> The DNR administers several programs with water quality elements. For example, the DNR's Soil Conservation Board is responsible for the pursuit of "erosion and sediment reduction programs that affect water quality."<sup>18</sup> The Flood Control Act addresses environmental concerns related to issuing a construction permit that will "[r]esult in unreasonably detrimental effects upon fish, wildlife, or botanical resources."<sup>19</sup> Similarly, the Navigable Waterways Act prohibits construction that will "[c]ause significant harm to the environment."<sup>20</sup> The NRC has found water quality is relevant to whether these values are properly protected.<sup>21</sup>

Similarly, ISDH has regulatory responsibility for programs having a direct impact on water quality. The Executive Board of ISDH is generally empowered to adopt rules to improve the public health of Indiana regarding the "pollution of any water supply other than where jurisdiction is in the water pollution control board and the department of environmental management."<sup>22</sup> One example is that sewage disposal through commercial and residential on-site sewage disposal systems must comply with rules adopted by the agency to protect against "a health hazard or water pollution by disposing of any organic or inorganic matter. . . into surface water, ground water, or onto the ground surface."<sup>23</sup>

IDEM policy with respect to water quality is articulated through the Water Pollution Control Board. The board has broad discretion to adopt rules to control possible water quality degradation. Included is the authority to adopt rules for the "control and prevention of pollution in waters of Indiana with any substance" that is deleterious to public health or which may adversely affect any fish or beneficial animal or vegetable life.<sup>24</sup> The board may adopt rules needed to implement the Clean Water Act or the federal Safe Drinking Water Act.<sup>25</sup>

The Water Pollution Control Board may adopt rules to determine what qualities or properties of water indicate a polluted condition in any streams or waters of Indiana that is: (1) deleterious to public health or the conduct of a lawful occupation; (2) by which agriculture, floriculture, or horticulture may be injured; (3) by which the livestock industry may be injured; (4) "by which any lawful use of any waters by the state or by any person may be lessened or impaired or materially interfered with;" or, (5) by which any fish or beneficial animal or vegetable life may be injured.<sup>26</sup> The board may also adopt rules restricting

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<sup>15</sup> 42 USC 300f through 300j. One exception, not pertinent to the coastal area is that DNR is the designated agency for Class II injection wells used in association with the production of oil and gas. This statutory delegation is set forth at IC 13-13-5-1(1)

<sup>16</sup> IC 13-18-2-1.

<sup>17</sup> For a general discussion of the DNR's water quality jurisdiction, see *Hoosier Environmental Council v. RDI/Caesar's Riverboat Casino, LLC, and DNR*, 8 Caddnar 48, 57 (1998).

<sup>18</sup> IC 14-32-2-12(8).

<sup>19</sup> IC 14-28-1-22(e).

<sup>20</sup> IC 14-29-1-8(c).

<sup>21</sup> *Hoosier Environmental Council v. RDI/Caesar's* at 57.

<sup>22</sup> IC 16-19-3-4.

<sup>23</sup> 410 IAC 6-8.2-31.

<sup>24</sup> IC 13-18-3-1.

<sup>25</sup> IC 13-18-3-2.

<sup>26</sup> IC 13-18-4-1.

the polluting content of any waste material and polluting substances discharged or sought to be discharged into any stream or waters of Indiana.<sup>27</sup>

Discharges into surface waters of the coastal area must not impair existing instream water uses. “[T]he level of water quality necessary to protect existing uses shall be maintained and protected.” If the designated use of a waterway is impaired, there can be no lowering of the water quality for any pollutant causing impairment.<sup>28</sup> Additionally, for a waterway designated as an “outstanding state resource water,” the high quality of its waters generally must be maintained and protected without degradation by prohibiting a new or increased discharge due to an increase in the wasteload of any pollutant beyond the background level of the pollutant. A few limited exceptions are recognized from this standard where the result will be a net improvement to water quality. For example, an increase in sewerage area or the receipt of septic waste may be approved under limited circumstances.<sup>29</sup> The designated “outstanding state resource waters” within the coastal area are the Indiana portion of the open waters of Lake Michigan and the waters incorporated in the Indiana Dunes National Lakeshore.<sup>30</sup>

Rules address a number of specified activities with processes or systems that could result in water quality degradation. Among these are wastewater treatment facilities,<sup>31</sup> industrial wastewater pretreatment programs,<sup>32</sup> land application of sludge and wastewater,<sup>33</sup> and public water supply.<sup>34</sup> Basic NPDES general permit rule requirements apply to stormwater runoff associated with construction activity, stormwater discharge associated with industrial activity, facilities discharging noncontact cooling water, wastewater discharge associated with petroleum products terminals, wastewater discharge associated with ground water petroleum remediation systems, wastewater discharge associated with hydrostatic testing of commercial pipelines, and wastewater discharge from facilities engaged in sand or gravel operations.<sup>35</sup>

Combined sewer overflow (CSO) outfalls are point source discharges, and are subject to NPDES permit requirements. The CSO reduction and elimination requirements established in the Indiana CSO Strategy are incorporated into the individual municipal wastewater treatment plant NPDES permits of those Indiana communities.<sup>36</sup>

Confined animal feeding operations are subject to permitting by IDEM. An application must include plans and specifications for the design and operation of manure treatment, a manure management plan, and other information to protect against pollution of “waters of the state.” IDEM is to apply feeding standards through a policy statement that is consistent with standards from the US Department of Agriculture Natural Resources Conservation Service (NRCS), the Midwest Plan Service, and university extension services.<sup>37</sup>

Aquaculture, or concentrated aquatic animal production facilities as defined by federal regulation,<sup>38</sup> are also point sources subject to NPDES permit requirements. The need for a permit is determined following

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<sup>27</sup> IC 13-18-4-3.

<sup>28</sup> 327 IAC 2-1.5-4.

<sup>29</sup> 327 IAC 5-2-11.7.

<sup>30</sup> 327 IAC 2-1.5-19(b).

<sup>31</sup> 327 IAC 3 and 327 IAC 4.

<sup>32</sup> 327 IAC 5.

<sup>33</sup> 327 IAC 6.

<sup>34</sup> 327 IAC 8.

<sup>35</sup> 327 IAC 15.

<sup>36</sup> The IDEM CSO Strategy can be read at <http://www.state.in.us/idem/owm/facmang/wwet/csoindex.html>. Permit information can be accessed at <http://www.state.in.us/idem/owm/facmang/guide/index.html>.

<sup>37</sup> IC 13-18-10.

<sup>38</sup> Concentrated aquatic animal production facilities are at 40 CFR 122.24.

an on-site inspection. Factors included in the analysis of need include: (1) the location and quality of the receiving waters; (2) whether the facility is a significant contributor of pollution to the “waters of the state;” or, (3) if the holding, feeding and production capacities of the facility, are such that it is determined the facility does not need an NPDES permit because the aquatic animals are raised in a structure that discharges less than 30 days per year, and produces less than 20,000 pounds of cold water, or 100,000 pounds of warm water aquatic animals per year.

Discharges into aquaculture projects, as defined by federal regulation,<sup>39</sup> are subject to the NPDES permit program. However, this applies only to those operations that feature the confinement of aquatic animals within the waters of the State, or of the United States.

As is typical of state programs providing environmental protection, statutory procedures have been enacted to assure adequate applicant and citizen participation in permitting functions relating to the protection of water quality. These opportunities are presented both before and after an agency makes a permitting decision. Before a permit is issued, the governing law is typically unique to, and customized for, a particular regulatory program or programs within an individual agency. For example, legislation has been enacted with respect to IDEM to provide pre-permit notification to local government officials and to define the opportunity for a local public hearing.<sup>40</sup> After a permitting decision is made, the “administrative orders and procedures act” (or AOPA) governs most activities of the agencies primarily concerned with water quality.<sup>41</sup> These procedural mechanisms are discussed in more detail in the section titled, Legal Procedures.

One pre-permitting process warrants particular note in the context of water quality. As a result of Indiana’s participation in the Great Lakes Initiative, there are additional public notice requirements before discharges can be authorized into the waterways of the coastal area. Upon receipt of an application for a variance, for site-specific modification of water quality criteria and values, for implementation of antidegradation standards, or alternate mixing zone demonstrations, IDEM must provide notice, request comment, and, if requested, schedule and hold a public meeting. IDEM publishes a notice in a daily or weekly newspaper in general circulation throughout the area affected by the discharge for which the application was submitted. The notice is also to be sent by mail to the applicant, to the EPA, ACOE, the FWS, other interested state and local governmental agencies, all parties on a mailing list maintained by IDEM, and to any other person who requests to receive a copy of the notice. The notice must: (1) identify the applicant and the receiving waterway; (2) describe the type of application submitted and the locations of relevant discharge points; (3) describe the activities that result in the discharge; (4) identify the substances for which the application was submitted; (5) provide IDEM contact persons; and, (6) outline how to submit comments or request a public meeting.<sup>42</sup>

#### Constructed Wetlands for Wastewater Treatment

An alternative method to treat wastewater is a constructed wetland. Constructed with wetland vegetation and soils, these systems are designed to reduce biochemical oxygen demand (BOD) and total suspended solids in wastewater. Reductions in pathogens, nitrogen, metals, and toxic organics are also possible. IDEM and ISDH regulate construction of wetlands for wastewater treatment. A nonrule policy document

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<sup>39</sup> Discharges into aquaculture projects are defined in 40 CFR 122.25.

<sup>40</sup> IC 13-15-3.

<sup>41</sup> The AOPA is codified at IC 4-21.5. Agencies governed by the AOPA include IDEM, DNR, and ISDH.

<sup>42</sup> 327 IAC 5-2-11.2.

provides technical guidance for the design, construction, and operation of constructed wetland type sanitary wastewater treatment facilities.<sup>43</sup>

The guidance pertains to constructed wetland wastewater treatment systems operated as commercial on-site wastewater disposal systems<sup>44</sup> and water pollution treatment or control facilities used in public or private sanitary sewerage systems<sup>45</sup> that discharge to surface water, ground water, or land applied treated effluent. This guidance does not apply to private, individual residential sewage disposal systems that serve one- or two-family dwellings. The guidance should, however, be used with other applicable technical reference material. For example, soil absorption systems must be designed and constructed according to the ISDH standards. Compliance with additional technical reference material may be necessary depending on the system design and application.

#### Filling, Dredging, and Alteration of Wetlands

Activities involving the filling, dredging, and alteration of wetlands and special aquatic sites are regulated broadly under the federal Clean Water Act. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into waters of the United States.<sup>46</sup> Section 404 is typically administered in conjunction with Section 401. Section 401 requires certification from the state in which a discharge originates that the discharge will comply with water quality standards. Currently, in Indiana the ACOE administers Section 404 with an opportunity for comment by state and local agencies. Section 401 water quality certification is provided by IDEM, and the state agency couples Section 401 authority over “waters of the United States” with its state water authority over “waters of Indiana.”<sup>47</sup>

IDEM is the state agency charged with reviewing and either granting, denying, or conditioning 401 water quality certifications under the Clean Water Act. In determining whether to issue a 401 water quality certification, IDEM reviews the proposed activity and determines whether the activity will meet state water quality standards. The certification must contain conditions necessary to ensure compliance with these standards. In Indiana, the 401 water quality certification program is implemented using the agency’s general statutory authority for rule adoption and the resulting water quality rules. Most prominent among these rules (as applicable to the coastal area) are the water quality standards contained in 327 IAC 2-1.5, including the antidegradation standards.<sup>48</sup>

A 401 water quality certification is a form of state agency “permit.” As such, the grant or denial of a permit is subject to administrative review by the Office of Environmental Adjudication. The certification process determines whether an activity will comply with Indiana’s “effluent limitations and water quality standards.” If a 401 water quality certification is to be issued, the certification must be conditioned so that no degradation to water quality will result to existing and potential beneficial uses of the State’s surface waters. Included in the scope of a 401 water quality certification is the authority of IDEM to require dredged material be disposed in an appropriate off-site location, to address storm-water runoff, and to assure that harm will not come to aquatic life in a waterway or adjacent terrestrial area. The

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<sup>43</sup> *Constructed Wetlands Wastewater Treatment Facilities Guidance*, Water-0001-NPD, Indiana Department of Environmental Management, 20 IND. REG. 2619 (June 1, 1997). The nonrule policy document and additional information can be found online at <http://www.state.in.us/idem/owm/planbr/rules/non-rule.html>. Contacts are IDEM, Office of Water Management, 100 N. Senate Ave., Rm. 1203, PO Box 6015, Indianapolis, IN 46206 (317) 232-8676 or 1-800-451-6027; and ISDH, Commercial On-site Wastewater Disposal, 2 North Meridian Street, Indianapolis, IN 46204, (317) 233-1325.

<sup>44</sup> Commercial onsite wastewater disposal systems are defined at 410 IAC 6-10.

<sup>45</sup> Water pollution treatment or control facilities used in public or private sanitary sewerage systems are defined at 327 IAC 3-1-2.

<sup>46</sup> 33 USC 1344.

<sup>47</sup> IC 13-18-4-5.

<sup>48</sup> 327 IAC 2-1.5-4.



recipient of a 401 water quality certification, who fails to adhere to the terms of the certification, is subject to a state enforcement action by IDEM.<sup>49</sup>

In determining whether to issue a certification, the State is required to review the proposed activity and determine whether the activity will meet certain federal and state requirements including state water quality standards. The certification must contain conditions necessary to ensure compliance with applicable laws. In Indiana, this program is currently being implemented using IDEM's general statutory authority and the water quality standards rule.<sup>50</sup> Additional information regarding the Section 401 water quality certification process is included in the section titled Natural Areas, Fisheries, Wildlife, and Native and Exotic Species.

### Bathing Beach Monitoring

Water quality at municipal bathing beaches is monitored weekly during the summer months by local health departments. The Indiana Dunes State Park and the Indiana Dunes National Lakeshore are monitored weekly by National Lakeshore staff. Managers at beaches often restrict full body contact with the water if samples contain more than 235 *E. coli* per 100 milliliters of water.<sup>51</sup> Coordination of these efforts has been enhanced by the Interagency Task Force on *E. coli*, a voluntary group of local, state, and federal agencies, researchers, and interested individuals. The task force works to determine the sources of pollutants affecting the quality of the water at Lake Michigan beaches, while researching improved monitoring methods. Beaches at many inland lakes are also monitored.

On October 10, 2000, the Beaches Environmental Assessment and Coastal Health Act of 2000 was enacted.<sup>52</sup> This federal legislation requires states to establish water quality criteria for coastal recreational waters for specific pathogens and pathogen indicators. In addition, states are required to establish a monitoring and notification program for coastal recreational waters based on standards developed by the EPA. The IDEM is the agency responsible for monitoring water quality and establishing water quality rules and monitoring standards. The DNR, especially the Indiana Dunes State Park, will work closely with IDEM to implement future changes to the monitoring of coastal recreational waters.

In 2001, IDEM proposed to EPA that Indiana participate in the BEACH Act. Indiana, through the Interagency Task Force for *E. coli*, has been developing standards for beach monitoring and public notification, two elements of the BEACH Act. Through its 2001 application, IDEM intends to contract with an entity that will use a geographic information system to further evaluate and characterize Lake Michigan beaches. The contractor also will facilitate the BEACH contract work with the Interagency Task Force for *E. coli*. IDEM intends to award a contract by early 2002.

### Handling and Disposal of Sanitary Wastes from Vessels

Four principal types of water are found onboard vessels: (1) "Waste water" may be derived from sanitary systems or ballast water. This water may be derived from a freshwater or saltwater source and must be disposed at another source, often distant from its origin. (2) "Potable water" may be used for drinking, showers, cooking, and galley washing. The latter uses may result in potable water becoming what is sometimes called "graywater." (3) "Engine room water" includes cooling water and boiler make-up water. This water may be discharged at greater than ambient temperatures but is generally considered to

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<sup>49</sup> Final Order Granting Caesars' Motion for Summary Judgment, Objection to the Issuance of Section 401 Water Quality Certification ACOE ID: 199600554 RDI/Caesars Riverboat Casino, LLC, Cause No. 97-W-J-1824 (January 5, 1998).

<sup>50</sup> 327 IAC 2-1.

<sup>51</sup> 327 IAC 2-1.5-8(e).

<sup>52</sup> Public law 106-284

be quickly diffused and cooled following discharge. (4) “Incidental water” includes rainwater and spray from waves on the deck, and it also includes bilge water.<sup>53</sup>

Since 1975, a vessel manufacturer which includes onboard toilet facilities has been required to connect the facilities to a marine sanitation device. A marine sanitation device is equipment “designed to receive, retain, treat, or discharge sewage, and any process to treat such sewage.” A person may not operate a vessel “with installed toilets” unless the vessel is equipped with an approved marine sanitation device, and unless the device has been certified through the US Coast Guard as being in good operating condition.<sup>54</sup>

On the Great Lakes, wastewater may be lawfully discharged from a marine sanitation device. The effluent from the discharge must “not have a fecal coliform bacterial count of greater than 1,000 per 100 milliliters nor visible floating solids.” This standard became effective in 1977 for new vessels and in 1980 for existing vessels. A state may completely prohibit the discharge from all vessels of any sewage “into some or all of the waters within such State by making a written application to the EPA. Upon the receipt of an application, the EPA must determine whether “adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels using such waters are reasonably available.”<sup>55</sup>

The discharge of “sewage from vessels” is excluded from the requirements for NPDES permits. “Sewage from vessels” means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels and regulated by the Clean Water Act. For commercial vessels on Lake Michigan, the term also includes galley, bath, and shower water (sometimes collectively called “graywater”).<sup>56</sup>

Water or another heavy material is placed as “ballast” in the hold of large vessels to improve their stability. The weight contained in the hold must be varied depending on cargo. The US Coast Guard has adopted regulations to control the release of ballast water from vessels entering the Great Lakes. The “most practical method of helping to protect the Great Lakes from foreign organisms that may exist in discharged ballast water is the exchange of ballast water in the open ocean, beyond the continental shelf. Water in the open ocean contains organisms that are adapted to physical, chemical, and biological conditions (such as high salinity) of the ocean. These organisms will not, or are unlikely to, survive if introduced into a freshwater system.”<sup>57</sup>

Incidental water includes bilge water, rainwater, and lake spray. Bilge water accumulates in a vessel, whether the vessel is constructed of steel or wood, “as a result of sweat or minor weeping of rivets and seams.” Environmental regulations do not generally focus upon bilge water, at least when vessels are not in port. Similarly, rainwater and spray from lake or ocean waves may accumulate in a vessel. This type of water either flows from the decks or is actively pumped out in accordance with the International Convention for the Prevention of Pollution from Ships (MARPOL).<sup>58</sup>

The Clean Vessel Act of 1992 was enacted by Congress with findings that the discharge of untreated sewage is prohibited by federal law in navigable waters of the United States, but that there are an insufficient number of pumpout stations to accommodate marine sanitation devices operated on

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<sup>53</sup> The Michigan Nonindigenous Aquatic Nuisance Species State Management Plan, 16 as set forth on the World Wide Web at the following address: <http://www.deq.state.mi.us/ogl/plan.html>

<sup>54</sup> 33 CFR 159.

<sup>55</sup> 40 CFR 140.

<sup>56</sup> 327 IAC 5-1-2 and 327 IAC 5-2-5(a).

<sup>57</sup> 58 FED. REG. 18330 (April 8, 1993).

<sup>58</sup> The Michigan Nonindigenous Aquatic Nuisance Species State Management Plan, 16 as set forth on the World Wide Web at the following address: <http://www.deq.state.mi.us/ogl/plan.html>

recreational watercraft. Congress also found that “Sewage discharged by recreational vessels because of an inadequate number of pumpout stations is a substantial contributor to localized degradation of water quality in the United States.”<sup>59</sup>

The Clean Vessel Act required Great Lakes states and other coastal states to perform surveys concerning the number and location of all pumpout stations and waste reception facilities at public and private marinas, mooring areas, docks, and other boating access facilities on navigable waters. In addition, the survey was to identify the number of recreational vessels in the state’s coastal waters with type III marine sanitation devices or portable toilets, and the areas of the coastal waters where the boats congregate.<sup>60</sup> Coastal states were required to develop and submit a plan for any construction or renovation of a pumpout facility in accordance with guidance from the Secretary of the Interior. Matching federal funds were also provided to assist the states in this effort.<sup>61</sup>

The primary funding source for the Clean Vessel Act is the Sport Fish and Restoration Account of the Aquatic Resources Trust Fund, also known as the Wallop-Breaux Fund. Revenues generated from motor boat fuel taxes have also contributed to the fund. Grants are awarded on a competitive basis and will reimburse 75% of the costs of construction. Education and outreach for boaters regarding the problems resulting from the discharge of sewage from boats can also be funded.<sup>62</sup> In Indiana, Clean Vessel Act funding is administered by IDEM.

For Indiana waters other than Lake Michigan, a person operating a watercraft equipped with a water closet or toilet must retain the sewage in a holding tank for disposal at an approved shoreside facility. A person may not dispose of sewage accumulated in a holding tank or any other container on a watercraft” except as authorized by IDEM.<sup>63</sup> By rule, every marina operating in the navigable waters of Indiana must provide access to pumpout facilities.<sup>64</sup>

### Great Lakes Initiative

The Great Lakes Water Quality Guidance was published by the EPA on March 23, 1995. The GLWQG has criteria for 29 pollutants to protect aquatic life, human health, and wildlife as well as methodologies to develop criteria for other pollutants that do not have criteria in the guidance. The guidance also contains implementation procedures for developing water quality based effluent limits for permits and antidegradation policies and procedures to maintain existing and designated uses, high quality waters, and outstanding resource waters.

In January 1997, the Water Pollution Control Board adopted water quality standards by rule in furtherance of the Great Lakes Initiative.<sup>65</sup> The rule reflects that the goal of the State is to restore and maintain the chemical, physical, and biological integrity of the waters of the State within the Great Lakes system. To promote the goal, the public policy of the State is that the discharge of toxic substances in toxic amounts is prohibited and persistent and bioaccumulating toxic substances be reduced or eliminated.<sup>66</sup> Issues addressed to date include antidegradation standards,<sup>67</sup> surface water use designations,<sup>68</sup> bioaccumulative chemicals of concern,<sup>69</sup> and minimum surface water quality criteria.<sup>70</sup>

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<sup>59</sup> Pubic Law 102-587, Title V, subtitle F, §5602(a) [codified in 16 USC 777c and 777g].

<sup>60</sup> Title V, subtitle F, §5603(a) and 5608.

<sup>61</sup> Title V, subtitle F, §5603(b).

<sup>62</sup> CLEAN WATER NOTEBOOK, SeaLand Technologies, Inc. (October 1994).

<sup>63</sup> IC 14-15-2-7.

<sup>64</sup> 312 IAC 6-4.

<sup>65</sup> 327 IAC 2-1.5.

<sup>66</sup> 327 IAC 2-1.5-3.

## Remedial Action Plan for the Grand Calumet River, Indiana Harbor and Ship Canal, and Near Shore Lake Michigan and the Lake Michigan Lakewide Management Plan

The International Joint Commission (IJC), formed by the American-Canadian Boundary Waters Treaty of 1909, has identified 43 Areas of Concern (AOCs) in the Great Lakes Basin which contribute to severe environmental degradation of the Great Lakes. Of the 43 designated AOCs, ten are on Lake Michigan. The Great Lakes Water Quality Agreement calls for the designation of AOCs where any or all of 14 beneficial uses are impaired to such an extent that they affect the quality of aquatic life.<sup>71</sup>

One of the most complex AOCs is located in Indiana's northern Lake County. This area encompasses the west and east branches of the Grand Calumet River, the Indiana Ship Canal, the Indiana Harbor, and nearshore Lake Michigan in the vicinity of the Indiana Harbor. Because environmental problems in this AOC are so complex, the implementation of a remedial action plan (RAP) is being conducted in stages: (1) defining ecosystem problems; (2) reviewing and choosing solutions; and, (3) implementing the solutions.

The LMCP will coordinate with the RAP development and implementation process to ensure a consistent approach to restoring Indiana's Area of Concern.

### Lake Michigan Lakewide Management Plan

The US and Canada entered the Great Lakes Water Quality Agreement of 1978 to address mutual concerns within the Great Lakes on an international basis. Nine years later, the Water Quality Agreement of 1987 made amendments to help advance the earlier agreement. Upon finding that the "Great Lakes are a valuable natural resource," that the United States should seek to implement the goals of these water quality agreements, and that the EPA should "lead in the effort to meet those goals," Congress enacted the Great Lakes Critical Programs Act of 1990.<sup>72</sup> The legislation was addressed primarily to the Clean Water Act and sought to implement the RAPs and to develop Lakewide Management Plans (LaMPs) for each of the Great Lakes<sup>73</sup> with assistance from the Great Lakes National Program Office (GLNPO). Parallel amendments to the Clean Air Act also sought to enhance the Great Lakes air monitoring network.<sup>74</sup> The LMCP will coordinate with the Lake Michigan LaMP implementation process to ensure a consistent approach to restoring and managing Indiana's portion of Lake Michigan.

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<sup>67</sup> 327 IAC 2-1.5-4.

<sup>68</sup> 327 IAC 2-1.5-5.

<sup>69</sup> 327 IAC 2-1.5-6.

<sup>70</sup> 327 IAC 2-1.5-8.

<sup>71</sup> The 14 beneficial uses of the Great Lakes Water Quality Agreement. 1) Restrictions on fish and wildlife consumption. 2) Tainting of fish and wildlife flavor. 3) Degraded fish and wildlife populations. 4) Fish tumors or other deformities. 5) Bird or animal deformities or reproductive problems. 6) Degradation of benthos. 7) Restrictions on dredging activities. 8) Eutrophication or undesirable algae. 9) Restrictions on drinking water consumption or taste or odor problems. 10) Beach closings. 11) Degradation of aesthetics. 12) Added costs to agriculture or industry. 13) Degradation of phytoplankton and zooplankton populations. 14) Loss of fish and wildlife habitat.

<sup>72</sup> See 33 USC 1268 [Public Law 101-596].

<sup>73</sup> A RAP is defined by the legislation as a "written document which embodies a systematic and comprehensive ecosystem approach to restoring and protecting the beneficial uses of areas of concern, in accordance with article VI and Annex 2 of the Great Lakes Water Quality Agreement." A LaMP is defined as a "written document which embodies a systematic and comprehensive ecosystem approach to restoring and protecting the beneficial uses of the open waters of each of the Great Lakes States, in accordance with article VI and Annex 2." 33 USC 1268(a).

<sup>74</sup> 42 USC 7412(m). See also Annex 15 of the Great Lakes Water Quality Agreement.

## **Activities Affecting Public Water Supplies**

A permit is required from IDEM for the construction, installation, or modification of sources, facilities, and equipment associated with a public water supply,<sup>75</sup> including water distribution systems. Plans and specifications for the construction, installation, or modification of facilities for a public water supply must accompany a permit application.<sup>76</sup> Plans must demonstrate that the proposed facility is satisfactory in terms of sanitary quality, chemical quality, and adequacy of public water supply.<sup>77</sup>

IDEM's current procedures for reviewing the applications, plans and specifications are based on guidance provided by rule,<sup>78</sup> by the Recommended Standards for Water Works (commonly known as the "Ten States Standards") and by the American Water Works Association and other professional organizations.<sup>79</sup> Procedures for the design and construction of water main extensions are also outlined by rule.<sup>80</sup> Technical standards for the design and construction of public water system wells are also set by rule.<sup>81</sup>

Construction of some water main extensions may qualify for a general permit.<sup>82</sup> Under the optional general permit procedures, those planning water main extensions must submit a Notice of Intent Letter to IDEM in lieu of filing a permit application. The letter must be sent by certified mail 30 days before any construction starts, and must include certifications from the engineer, and the water system, along with information on average daily demand, system capacity, and two year average peak demand. In addition, all plans and specifications must meet the standards set by rule and must be on file with the public water system prior to construction, and available during construction.

Drinking water standards are coordinated with the federal Safe Drinking Water Act and, at the state level, are set by rule.<sup>83</sup> The rule establishes maximum contaminant levels for inorganic chemicals, organic chemicals other than volatile compounds, and volatile compounds. The rule also sets analytical methods.

In 1986, the federal Safe Drinking Water Act required states to develop and implement a Wellhead Protection Program. In 1989, the Indiana General Assembly authorized the Water Pollution Control Board to adopt rules to help protect the state's public drinking water supplies by managing sources of contamination overlying the ground water sources. From this charge IDEM developed a Wellhead Protection Program which became effective in 1997.

The Wellhead Protection Program Document describes Indiana's policy toward preventing contamination within the area contributing water to a public water supply system well. Prevention is addressed through activities performed by state, federal and local government and actions by a public water supply system well. The Wellhead Protection Rule<sup>84</sup> outlines the activities required to be performed by the public water supply system to develop a local Wellhead Protection Program.

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<sup>75</sup> "Public water supply," for the purposes of environmental management laws of Indiana, means any wells, reservoirs, lakes, rivers, sources of supply, pumps, mains, pipes, facilities, and structures through which water is obtained, treated as required, and provided to the public through a water distribution system that (A) serves at least 25 people per day for drinking, domestic use, or other purposes (including state owned facilities); or, (B) has at least 15 service connections.

<sup>76</sup> IC 13-18-16-1.

<sup>77</sup> IC 13-18-16-5.

<sup>78</sup> 327 IAC 8-2.

<sup>79</sup> Standards for the drinking water permit program can be accessed at <http://www.state.in.us/idem/owm/dwb/dwp&app.html>

<sup>80</sup> 327 IAC 8-3.2.

<sup>81</sup> 327 IAC 8-3.4.

<sup>82</sup> 327 IAC 8-3.5.

<sup>83</sup> 327 IAC 8-2.

<sup>84</sup> 327 IAC 8-4.1.

### Fish Consumption Advisory

Each year IDEM, ISDH, and DNR develop a fish consumption advisory based on recent fish monitoring data. The 1998 advisory is based on levels of polychlorinated biphenyls (PCBs) and mercury found in fish tissue. In each area, samples were taken of bottom-feeding fish, top-feeding fish, and fish feeding in between. Over 1,600 fish tissue samples were analyzed for polychlorinated biphenyls (PCBs), pesticides, and heavy metals. Of those samples, 99% contained mercury. Criteria for placing fish on the 1998 Indiana Fish Consumption Advisory have changed from using the Food and Drug Administration guidelines to using the Great Lakes Task Force risk-based approach.<sup>85</sup>

### Nonpoint and Other Diffuse Sources of Water Pollution

Many of the laws which seek generally to control water quality degradation also have application to activities which may result in nonpoint or diffuse sources of water pollution. The general principle that a person may not "cause, permit or suffer to be... drained, allowed to seep, or otherwise disposed into any waters... any organic or inorganic matter that causes or contributes to a polluted condition of any waters" in violation of adopted water quality standards<sup>86</sup> is applicable to nonpoint pollution. Indiana also has various statutory provisions which prohibit the discharge of substances or materials into the water or onto areas which may affect water. This authority is not limited to point sources of pollution. A person must not: (1) "deposit any contaminants upon the land in a place and manner that creates or would create a pollution hazard that violates or would violate a rule;" or, (2) "dispose of solid waste in, upon, or within the limits of or adjacent to a public highway, state park, state nature preserve, or recreation area or in or immediately adjacent to a lake or stream..."<sup>87</sup>

The Water Pollution Control Board's adopted policy of nondegradation of water quality is applicable to all surface waters and is not limited by pollutant source.<sup>88</sup> Several "waters of high quality" were designated and those waters must be maintained at the water quality existing in 1977 without degradation. Indiana prohibits the drainage or placement of material into state waters that causes or contributes to a polluted condition such that "any fish life or any beneficial animal or vegetable life in any waters may be destroyed or propagation thereof prevented or injuriously affected."<sup>89</sup> While this provision does cover nonpoint sources of pollution, it requires proof of harmful effects on living organisms in the allegedly affected waterbody.<sup>90</sup>

Nonpoint source pollution is considered during the review of activities involving filling and dredging of aquatic sites when a section 401 water quality certification is required. Section 401 water quality certification is provided by IDEM, and the state agency couples Section 401 authority over "waters of the United States" with its state water authority over "waters of Indiana."<sup>91</sup> In Indiana, the 401 water quality certification program is implemented using the agency's general statutory authority for rule adoption and

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<sup>85</sup> This information was obtained from the Indiana Fish Consumption Advisory available at [http://www.state.in.us/isdh/dataandstats/fish/fish\\_adv\\_index.htm](http://www.state.in.us/isdh/dataandstats/fish/fish_adv_index.htm)

<sup>86</sup> IC 13-18-4-5.

<sup>87</sup> 13-30-2-1. Information about applicable nonpoint source laws in this paragraph was obtained from Nonpoint Source Pollution Management Plan for Indiana [2000 - 2004] which can be found at

<http://www.state.in.us/idem/owm/planbr/wsm/watershed/NPSplan/NPSManagementPlan.html>

<sup>88</sup> 327 IAC 2-1.5-19.

<sup>89</sup> IC 13-1-3-8.

<sup>90</sup> Information about applicable nonpoint source laws in this paragraph was obtained from Nonpoint Source Pollution Management Plan for Indiana [2000 - 2004] which can be found at

<http://www.state.in.us/idem/owm/planbr/wsm/watershed/NPSplan/NPSManagementPlan.html>

<sup>91</sup> IC 13-18-4-5.

the resulting water quality rules. Most prominent among these rules (as applicable to the coastal area) are the water quality standards contained in 327 IAC 2-1.5, including the antidegradation standards.<sup>92</sup>

Several DNR statutes address environmental protection relative to construction activities along and within waterways. The Flood Control Act addresses environmental values in its prescription on the issuance of a construction permit which will "[r]esult in unreasonably detrimental effects upon fish, wildlife, or botanical resources."<sup>93</sup> Similarly, the Navigable Waterways Act prohibits construction that will "[c]ause significant harm to the environment."<sup>94</sup> An activity that will have the effect of changing the bed or shoreline of a public freshwater lake is required to have a prior permit.<sup>95</sup> Ditching and draining activities within one-half mile of any lake ten or more acres requires a determination the activity will not result in "unreasonably detrimental effects upon fish, wildlife, or botanical resources."<sup>96</sup> Water quality is relevant to whether the environmental values are protected,<sup>97</sup> and the control of nonpoint source pollution may be essential to the protection of water quality under these permitting programs.

State public health laws may address specific instances or sources of nonpoint source pollution where public health is or may be adversely affected. Onsite sewage disposal systems (septic systems) are usually regulated by local building codes and health officials. Standards for residential sewage disposal are established by the ISDH by rule. In general, "[n]o person shall throw, run, drain, seep, or otherwise dispose into any of the surface waters or ground waters of this state, or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into such waters, any organic or inorganic matter from a dwelling or residential sewage disposal system that would cause or contribute to a health hazard or water pollution."<sup>98</sup> A person may be ordered to connect to a sewage treatment system or service if it is determined to be "in the interest of the health, safety, convenience, and welfare of the residents of an area."<sup>99</sup> This rule is enforced through the issuance of an order from the local health officer stating the nature of the violation and setting a time limit to correct the violation.<sup>100</sup>

The Indiana General Assembly has set a policy with respect to the protection of both land and water resources which can result from agricultural runoff. "[L]and and water resources of Indiana are among the basic assets of Indiana." Their proper protection and promotion is necessary to the health, safety, and general welfare of the people of Indiana. The policy reflects that "improper land use practices and failure to control and use rainfall and runoff water cause and contribute to the deterioration and waste of these resources." The loss of "natural grass, plant, and forest cover has interfered with the natural factors of soil stabilization, causing loosening of soil and exhaustion of humus and developing a soil condition that favors excessive runoff and erosion." As a consequence, topsoil is being "washed out of fields and pastures," there is an acceleration of washing from sloping fields, and there is a loss of valuable topsoil. In addition, "valuable water resources are being lost causing damages in watersheds."<sup>101</sup>

The Soil Conservation Board was established within DNR to address concerns for improper land use practices. Among the duties of the board is the coordination of erosion and sediment reduction programs

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<sup>92</sup> 327 IAC 2-1.5-4.

<sup>93</sup> IC 14-28-1-22(e)(3).

<sup>94</sup> IC 14-29-1-8(c)(2).

<sup>95</sup> IC 14-26-2-9.

<sup>96</sup> IC 14-26-5-1.

<sup>97</sup> *Hoosier Environmental Council v. RDI/Caesar's Riverboat Casino, LLC and DNR*, 8 Caddnar 48 (1998).

<sup>98</sup> 410 IAC 6-8.1.

<sup>99</sup> IC 13-18-15-1.

<sup>100</sup> Information about applicable nonpoint source laws in this paragraph was obtained from NONPOINT SOURCE POLLUTION MANAGEMENT PLAN FOR INDIANA [2000 - 2004] which can be found at

<http://www.state.in.us/idem/owm/planbr/wsm/watershed/NPSplan/NPSManagementPlan.html>

<sup>101</sup> IC 14-32-1-1(1) through (4).

that affect water quality.<sup>102</sup> In this role, the board is to work with other state agencies, federal agencies, and local soil and water conservation districts. The districts have numerous responsibilities to address land and water resource protection, including action as an agent of the State or United States to acquire, construct, operate, or administer any soil and water conservation, erosion control, water quality protection, flood prevention, or outdoor recreation project within the district boundaries.<sup>103</sup> The Soil Conservation Board is also authorized to develop a statewide regulatory program “after all reasonable voluntary approaches to erosion and sediment reduction have been exhausted.”<sup>104</sup>

In 1992, the Water Pollution Control Board adopted a multi-section rule to address stormwater runoff associated with construction activities. Commonly referred to as “Rule 5,”<sup>105</sup> its stated purpose is to reduce sediments and other pollutants which result from soil erosion in stormwater discharges from sites where construction activity disturbs at least five acres.<sup>106</sup> Construction activities include clearing, grading, excavation, and other land-disturbing activities.<sup>107</sup> Rule 5 provides a general permit and does not apply where a person obtains a specific NPDES permit for the construction activity.<sup>108</sup> An Erosion and Sediment Control Plan must be prepared by the person undertaking the constructing activity. This plan must be reviewed by the local Soil and Water Conservation District (SWCD). Once the SWCD has approved the plan and necessary modifications have been made, a Notice of Intent letter is mailed to IDEM. A Notice of Sufficiency must be received from IDEM before construction can begin.

If the receiving water for the project is classified as an outstanding state resource or exceptional use water, the general permit does not apply and an individual NPDES permit for storm water discharges must be obtained. An individual permit application must be submitted at least 180 days prior to initiation of land disturbing activities.<sup>109</sup>

The discharge of stormwater associated with certain industrial activity is also eligible for general permit. If the waters are discharged to an outstanding state resource water, also called a water of high quality or an exceptional use stream, an individual NPDES permit must be sought. A person using a general permit must: (1) sample and characterize stormwater runoff; (2) establish and implement a Storm Water Pollution Prevention Plan (SWPP); and, (3) resample to demonstrate effectiveness of the implemented plan.<sup>110</sup>

The Water Pollution Control Board may also adopt rules or nonrule policy documents concerning the construction and operation of confined animal feeding operations. A manure management plan must accompany a permit application for a concentrated animal feeding operation and may require the operator to comply with the governing statutory chapter, rules adopted under the chapter, water pollution control statutes, and rules adopted under water pollution control statutes.<sup>111</sup> Generally, concentrated animal feeding operations are point sources subject to the NPDES permit program. However, the need for such a permit is conditioned on an on-site inspection.

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<sup>102</sup> IC 14-32-2-12(8) also specifies that the board is to coordinate the erosion and sediment part of 33 USC 1288.

<sup>103</sup> IC 14-32-5-1.

<sup>104</sup> IC 14-32-2-12(9).

<sup>105</sup> 327 IAC 15-5.

<sup>106</sup> 327 IAC 15-5-1.

<sup>107</sup> 327 IAC 15-5-2.

<sup>108</sup> 327 IAC 15-5-7.

<sup>109</sup> This information and additional information on Rule 5 can be found at <http://www.state.in.us/idem/owm/facmang/storm/stormindex.html>

<sup>110</sup> 327 IAC 15-6.

<sup>111</sup> IC 13-18-10.



Laws that establish regulatory programs not directed primarily to water quality protection may also serve an important role in the control of nonpoint source pollution. For example, the State Chemist and the Indiana Pesticide Review Board are responsible for the registration, sale, transport, use, and application of pesticides. By rule, the board may establish a list of “restricted use pesticides” and “pesticides for use by prescription only” for the State or for designated areas of the State, if the board finds restrictions on sale, distribution, or usage are needed to prevent undue hazards to persons, animals, wildlife, lands, or waters.<sup>112</sup>

Another example is the law which governs private land which is managed as a classified forest.<sup>113</sup> Rules apply to lands classified after June 30, 1990 and require that any such site be maintained: (1) according to a management plan; (2) to prevent excessive erosion and to control the deposition of sediments off-site; and, (3) to maintain a healthy forest environment.<sup>114</sup>

The Nonpoint Source Section of IDEM maintains and administers the NONPOINT SOURCE POLLUTION MANAGEMENT PLAN FOR INDIANA [2000 - 2004].<sup>115</sup> The management plan is intended to serve as a handbook and resource guide for State and local officials to help them manage nonpoint source pollution in Indiana. The plan includes information regarding: (1) nonpoint source program goals; (2) watershed management partnerships in Indiana; (3) processes for identifying impaired watersheds and watersheds needing protection; (4) IDEM programs addressing watershed management and nonpoint source management; (5) mechanisms for program management and coordination; and (6) measuring progress. In addition, the plan is submitted to EPA to demonstrate that Indiana is developing an effective Nonpoint Source Management Program, in accordance with the provisions of the Clean Water Act.

The nonpoint source management plan also incorporates the findings of Indiana’s Nonpoint Source Task Force. The Task Force was convened in 1996 to assess and provide recommendations for improving nonpoint source management in Indiana. These findings and recommendations were used to develop many components of this plan, including the goals, project objectives, pollutant concerns, and recognition of partnerships. Recommendations were wide-ranging and included suggestions for assessment, research and development, education, implementation, and regulation enforcement.<sup>116</sup>

The Nonpoint Source Section also administers various grant programs with nonpoint source provisions under the federal Clean Water Act. The Section 319 Nonpoint Source Program<sup>117</sup> provides for various voluntary projects throughout the State to prevent water pollution and also provides for assessment and management plans for water bodies in Indiana impacted by nonpoint source pollution. The Section 104(b)(3) Watershed Management Program<sup>118</sup> promotes the development of watershed management planning efforts and education and implementation projects. Section 205(j) Water Quality Project Grants<sup>119</sup> provide for projects aimed at reducing and eliminating pollution at the state level through community planning processes.

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<sup>112</sup> IC 15-3-3.5-10.

<sup>113</sup> IC 6-1.1-6.

<sup>114</sup> 312 IAC 15.

<sup>115</sup> The plan can be accessed at <http://www.state.in.us/idem/owm/planbr/wsm/watershed/NPSplan/NPSManagementPlan.html>

<sup>116</sup> Information regarding the task force was obtained from the nonpoint source management web site at <http://www.state.in.us/idem/owm/planbr/wsm/watershed/NPSplan/NPSManagementPlan.html>.

<sup>117</sup> 33 USC 1329.

<sup>118</sup> 33 USC 1254(b)(3).

<sup>119</sup> 33 USC 1285(j)(2).

## Activities Affecting Groundwater

Persons who are engaged in the business of drilling water wells are licensed by the DNR.<sup>120</sup> A competency examination must be mastered, and wells must be drilled and grouted according to the standards established by rule.<sup>121</sup> A well must be located to “use every natural protection to promote the maintenance of the well and its surroundings” and to protect the “quality of ground water encountered during the construction of the well.” A well must be located as “far as practicable” from any “known contamination source.”<sup>122</sup> Grouting and casing requirements, well disinfection standards, and other technical requirements are designed to protect both public and private wells from contamination. A permit must be obtained from IDEM for the placement of a public water supply well, and there are separate drilling standards for public water supply wells.<sup>123</sup> Abandoned wells must be “maintained so the well does not become a source or channel of ground water contamination. A well which poses a hazard to human health must also be plugged.”<sup>124</sup>

Construction standards are set by ISDH rules in order to help protect groundwater from pollutants originating with septic systems. For example, minimum distance requirements are established for septic tanks, dosing tanks, lift stations, and soil absorption fields relative to public water supply wells, private water supply wells, and commercial water supply wells.<sup>125</sup> Inlet and outlet connections to a septic tank must be sealed to the tank “in a water tight manner.”<sup>126</sup> Required topographic information for the placement of a septic system on-site includes the location of any existing water supply well.<sup>127</sup> Standards address the relationship of a septic system to a seasonal high water table.<sup>128</sup>

### Interagency Groundwater Task Force

Protection and management of groundwater resources is a responsibility shared primarily by DNR, IDEM, and ISDH. Cooperation among the agencies is facilitated through the Interagency Groundwater Task Force. Additional members of the Task Force include representatives from the Office of the State Chemist, State Fire Marshal, and members of local government, labor, and the business, environmental, and agricultural communities.<sup>129</sup>

The Task Force was established in 1986 to develop a state groundwater quality protection and management strategy and was mandated by legislation to coordinate the implementation of the strategy.<sup>130</sup> The strategy includes action to study, correct, and prevent groundwater contamination. In addition, the legislation requires IDEM to maintain a registry of contamination sites, operate a clearinghouse for reports of groundwater contamination, and investigate incidents of pollution that affect private supply wells.

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<sup>120</sup> IC 25-39.

<sup>121</sup> 312 IAC 13.

<sup>122</sup> 312 IAC 13-3-2.

<sup>123</sup> 327 IAC 8-3.4. The requirements for public water supply wells are incorporated by reference into 312 IAC 13.

<sup>124</sup> 312 IAC 13-10-2.

<sup>125</sup> 410 IAC 6-8.1-37.

<sup>126</sup> 410 IAC 6-8.1-40.

<sup>127</sup> 410 IAC 6-8.1-49(e).

<sup>128</sup> 410 IAC 6-8.1-43 and 51.

<sup>129</sup> Indiana Department of Natural Resources, WATER RESOURCES AVAILABILITY, LAKE MICHIGAN REGION, P. 182 (1994).

<sup>130</sup> IC 13-18-17.

### Matrix 5-3: Cross-reference of Water Quality Laws and Guidance Documents

Programs and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
Regulation of Processes, Systems or Practices with the Potential to Result in Water Quality Degradation				
WATER QUALITY STANDARDS: Specific standards indicating water quality are determined through rule adoption by the Water Pollution Control Board.	IC 13-18-3 IC 13-18-4  327 IAC 2-1.5	All waters in the Great Lakes basin must at a minimum be free from substances, materials, floating debris, oil, or scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges that: (1) will settle to form objectionable deposits; (2) are in amounts to be unsightly; (3) produce color, visible oil sheen, odor, or other conditions to the degree of being a nuisance; (4) are in concentration that will contribute to the growth of algae or aquatic plants to a degree of being a nuisance; and, (5) are in amounts that are toxic to or may kill aquatic life, other animals, or humans.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46204 (317) 233-2472 1-800-451-6027	IC 13-18-3 IC 13-18-4  327 IAC 2-1.5

WASTEWATER PERMIT PROGRAM (NPDES PERMIT PROGRAM): <sup>1</sup> Regulates point source discharges into waters of the United States. Includes permitting of activities associated with publicly owned treatment works, industrial wastewater treatment facilities, concentrated animal feeding and aquaculture operations, combined sewer overflows, and industrial wastewater pretreatment facilities. General permits are administered for discharges involved in other industrial processes such as cooling water, petroleum products, hydrostatic testing of commercial pipelines, sand and gravel operations, stormwater associated with construction activities, stormwater associated with industrial activities.	IC 13-15 IC 13-18-19  327 IAC 3 327 IAC 4 327 IAC 5 327 IAC 8 327 IAC 15  CSO STRATEGY <sup>2</sup>	Effluent limitations are permit conditions established by the IDEM on quantities, discharge rates, and concentrations of pollutants in water that is discharged, or will be discharged, from a point source into the “waters of the state” of Indiana. They represent the minimum effluent quality or quantity which must be achieved prior to discharge of the treated wastewater into the waters of the state. The NPDES permits issued by IDEM contain effluent limits which can be water quality-based or technology-based. The effluent limits in each individual NPDES permit are based on the most stringent of these two approaches	IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206 (317) 232-8760 1-800-451-6027	IC 13-15 IC 13-18-19  327 IAC 3 327 IAC 4 327 IAC 5 327 IAC 8 327 IAC 15
WASTEWATER OPERATOR ASSISTANCE TRAINING: Includes technical assistance, certification, and continuing education programs for wastewater treatment operators.	IC 13-18-11	IDEM issues certificates attesting to the competency of operators. A certificate must indicate the classification of works, plant, or system that the operator is qualified to supervise. Each operator shall display the operator's certificate in the office of the operator.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8793	Not applicable.
WASTEWATER FACILITY CONSTRUCTION PERMIT PROGRAM: Regulates the	IC 13-18-12	Application is evaluated based on technical specifications of	IDEM, Office of Water Management	IC 13-18-12

<sup>1</sup> Complete information regarding the Wastewater Permit Program, including application instructions, can be found at <http://www.state.in.us/idem/owm/facmang/guide/index.html>.

<sup>2</sup> The CSO Strategy can be accessed at <http://www.state.in.us/idem/owm/facmang/wwet/csoindex.html>.

construction of industrial and municipal wastewater facilities and industrial pretreatment facilities. This program also regulates sewer construction.	327 IAC 3  RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES <sup>3</sup>	construction plans and effectiveness of proposed treatment technology. Construction permits are not needed for: (1) storm sewers transporting only surface run off ; (2) single-family dwelling connections to existing sanitary sewers; (3) certain multi-unit buildings; (4) approved septic absorption field systems of less than 4000 gallons capacity; and, (5) confined feeding operations for animal production.	100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8760 1-800-451-6027	327 IAC 3
SECTION 401 WATER QUALITY CERTIFICATION PROGRAM: Certification is required for an activity that may result in any discharge into navigable waters. Activities are reviewed for consistency with state water quality standards. The certification is required before permits sought under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 are approved. See also section titled Natural Areas, Fisheries, Wildlife, and Native and Exotic Species.	33 USC 1341  IC 13-18-4-5 IC 13-13-5-1  327 IAC 2-1.5-5-4	Standards in the water quality rules are applied to the water quality certification program.	IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206 (317) 233-8488 1-800-451-6027	Section 401 water quality certification
WASTEWATER REVOLVING LOAN PROGRAM: Offers low-interest loans to qualified communities for planning, design, and construction of publicly owned wastewater treatment facilities.	IC 13-18-13  327 IAC 13	IDEM uses a priority ranking system to recommend loans or other financial assistance from the fund. IDEM shall develop the priority ranking system to achieve optimum water quality consistent with the water quality	IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206 (317) 232-8655 1-800-451-6027	Not applicable.

<sup>3</sup> Great Lakes - Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES (1997). This manual is commonly referred to as "The Ten-State Standards."

		goals of the State and the federal Clean Water Act.		
<p>BATHING BEACH MONITORING: Local county health departments collect and analyze water from bathing beaches weekly for <i>E. coli</i> and fecal coliform during the swimming season. Swimming in the water at bathing beaches can be restricted when water quality does not meet standards set by rule.</p> <p>Indiana also participates in the Beaches Environmental Assessment and Coastal Act of 2000 (BEACH).</p>	<p>327 IAC 2-1.5-8(e)</p> <p>17<sup>TH</sup> EDITION OF STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER</p> <p>AMBIENT WATER QUALITY CRITERIA FOR BACTERIA 1986 (EPA 440/5-84-002)</p>	<p>Full body contact may be restricted if water contains more than 235 <i>E. coli</i> per 100 milliliters of water.</p> <p>BEACH Act of 2000 requires states to establish water quality criteria for coastal recreational waters for specific pathogens and pathogen indicators. In addition, states are required to establish a monitoring and notification program for coastal recreational waters based on standards developed by the EPA.</p>	<p>Indiana State Department of Health 2 North Meridian St. Indianapolis, IN 46204 (317) 233-1325</p> <p>IDEM, Office of Water Management 100 North Senate Ave. Box 6015 Indianapolis, IN 46206 (317) 233-6801</p>	Not applicable.
<p>CLEAN VESSEL ACT PUMPOUT PROGRAM: Funding available under the federal Clean Vessel Act to public and private marinas.</p>	33 U.S.C. 1322	<p>Funds may be used for the construction or renovation of boat sewage pumpout facilities.</p>	<p>IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206 (317) 233-6801 1-800-451-6027</p>	Not applicable.
<p>MARINA PUMPOUTS: Requires marinas to have an approved wastewater treatment facility or on-site disposal system. Prerequisite for construction permit programs when new marina construction is involved.</p>	<p>IC 14-15-2-7</p> <p>312 IAC 6-4 327 IAC 3-2 327 IAC 5 410 IAC 6-10</p>	<p>A marina is defined by rule as a permanent structure that can service at least five boats at a time and provides, for a fee, engine fuel, docks, boat repair, or boat sales or rental.</p> <p>No new marina construction is permitted by DNR unless the marina operator obtains a permit from IDEM for construction and operation of a wastewater</p>	<p>DNR, Division of Water 402 W. Washington St., Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755</p>	<p>IC 14-15-2-7</p> <p>312 IAC 6-4 327 IAC 3-2 327 IAC 5 410 IAC 6-10</p>

		<p>treatment facility or an NPDES permit, or a permit from ISDH for construction of a commercial on-site wastewater disposal facility.</p> <p>State rules prohibit boats with water closets or toilets, without proper holding tanks, on public waters.</p>		
<p>REMEDIAL ACTION PLAN FOR THE GRAND CALUMET RIVER, INDIANA HARBOR AND SHIP CANAL, AND NEAR SHORE LAKE MICHIGAN: Plan developed to improve and eliminate environmental threats and damages in this area of northwest Indiana.</p>	<p>THE INDIANA HARBOR &amp; CANAL, THE GRAND CALUMET RIVER AND THE NEARSHORE LAKE MICHIGAN STAGE ONE REMEDIAL ACTION PLAN</p> <p>THE REMEDIAL ACTION PLAN GRAND CALUMET RIVER STAGE II REPORT</p> <p>THE REMEDIAL ACTION PLAN STAGE II INTERNATIONAL JOINT COMMISSION SUBMITTAL DOCUMENT</p> <p>THE REMEDIAL ACTION PLAN STAGE II.V WORKING DOCUMENTS</p>		<p>IDEM 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8755</p>	<p>Not applicable.</p>

LAKE MICHIGAN LAKEWIDE MANAGEMENT PLAN (LAMP): <sup>4</sup> Proposes actions to improve the water quality in Lake Michigan. Focus is on reducing “critical pollutants” to restore beneficial uses of the lake.	Great Lakes Water Quality Agreement  1990 Great Lakes Critical Programs Act		IDEM, Northwest Regional Office 504 Broadway, Suite 418 Gary, Indiana 46402 219-881-6712 1-888-209-8892	Not applicable.
Public Water Supplies				
DRINKING WATER PERMIT PROGRAM: <sup>5</sup> Ensures the public will have a safe and adequate drinking water supply and that the construction and operation of public water systems will not affect the environment. Regulates the design and construction of public water system facilities such as water main extensions, water wells, water pumping stations, water storage tanks, chemical additions, and treatment facilities.	IC 13-15 IC 13-18-16  327 IAC 2 327 IAC 3.2 327 IAC 3.5	Plans and specifications must be satisfactory with respect to: (1) sanitary quality, including chlorination if required; (2) chemical quality; and, (3) adequacy of water supply	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3300 1-800-451-6027	IC 13-15 IC 13-18-16  327 IAC 2 327 IAC 3.2 327 IAC 3.5
DRINKING WATER QUALITY STANDARDS: Drinking water standards are coordinated with the federal Safe Drinking Water Act and, at the state level, are set by rule.	327 IAC 8-2	The rule establishes maximum contaminant levels for inorganic chemicals, organic chemicals other than volatile compounds, and volatile compounds. The rule also sets analytical methods.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3300 1-800-451-6027	327 IAC 8-2
WELLHEAD PROTECTION PROGRAM: Protects drinking water by managing potential contaminates overlying ground water sources. Activities required to develop a local Wellhead Protection Program are outlined.	327 IAC 8-4.1  WELLHEAD PROTECTION PROGRAM DOCUMENT <sup>6</sup>	Public water supply systems with at least 15 service connections, or who supply water to at least 25 persons on a continual basis must develop a wellhead protection program.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3326 1-800-451-6027	Not applicable.

<sup>4</sup> The LaMP can be viewed at <http://www.epa.gov/grtlakes/lakemich/lampf.html>.

<sup>5</sup> More information on types of permits and application instructions can be viewed at <http://www.state.in.us/idem/owm/dwb/index.html>.

<sup>6</sup> The Wellhead Protection Document can be viewed at <http://www.state.in.us/idem/owm/dwb/Wellhead/whpp/index2.html>.



DRINKING WATER REVOLVING LOAN PROGRAM: Offers low-interest loans to political subdivisions for the planning, design, construction, renovation, improvement, or expansion of public water supply systems to encourage compliance with Safe Drinking Water Act standards.	IC 13-18-21	IDEM uses a priority ranking system to recommend loans or other financial assistance from the fund. The priority ranking system is consistent with federal primary drinking water regulations and health protection objectives of the federal Safe Drinking Water Act.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8655 1-800-451-6027	Not applicable.
FISH CONSUMPTION ADVISORY: Annually compiled by ISDH, IDEM, and DNR using recent fish monitoring data to develop guidelines for safe levels of fish consumption based on levels of polychlorinated biphenols (PCBs) and mercury found in fish tissues.	INDIANA FISH CONSUMPTION ADVISORY (1998) <sup>7</sup>	Criteria from the Great Lakes Task Force risk-based approach are used to place fish on the consumption advisory list.	ISDH, Environmental Epidemiology Section 2 N. Meridian St., 3 <sup>rd</sup> Fl. Indianapolis, IN 46204 (317) 233-7808	Not applicable.
Nonpoint and Other Diffuse Sources of Water Pollution				
GENERAL AUTHORITY OVER WATER QUALITY IMPAIRMENT: IDEM has broad-based authority over impairments to water quality, regardless of the nature of the source. The authority ordinarily originates with the Water Pollution Control Board.	IC 13-18-3-1 IC 13-18-4-5	A person must not drain, cause, or allow any organic or inorganic matter that causes or contributes to a polluted condition to enter any waters. The Water Pollution Control Board is empowered to adopt rules for the control and prevention of pollution in waters of Indiana with any substance that is deleterious to public health or the pursuit of any lawful occupation or that may harm a plant or animal.	IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206 (317) 232-8760 1-800-451-6027	IC 13-18-4-2
SECTION 401 WATER QUALITY CERTIFICATION PROGRAM: Certification	33 USC 1341	Standards in the water quality rules are applied to the water	IDEM, Office of Water Management	Section 401 water quality

<sup>7</sup> The Indiana Fish Consumption Advisory can be viewed at [http://www.state.in.us/isdh/dataandstats/fish/fish\\_adv\\_index.htm](http://www.state.in.us/isdh/dataandstats/fish/fish_adv_index.htm).

is required for an activity that may result in any discharge into navigable waters. Activities are reviewed for consistency with state water quality standards. The certification is required before permits sought under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 are approved.	IC 13-18-4-5 IC 13-13-5-1  327 IAC 2-1.5-5-4  Wetlands and Habitat Mitigation Nonrule Policy  Interagency Coordination Agreement on Wetland Mitigation Banking within the State of Indiana <sup>8</sup>	quality certification program.	100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 233-8488 1-800-451-6027	certification
LAKE PERMIT PROGRAM: Altering a ditch or drain with a level lower than, and located within ½ mile of, a lake containing at least ten acres requires a permit from DNR.	IC 14-26-5  312 IAC 11	DNR staff assess singular and cumulative impact on the lake and its resources using the criteria outlined in the statute involving natural resources, natural scenic beauty, and recreational purpose.  The criteria evaluated during a project's assessment include (1) whether or not the project will result in a taking of the lake; (2) whether or not the project will result in significant environmental harm to the lake; and (3) whether or not the project will adversely impact navigation.	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-26-5  312 IAC 11

<sup>8</sup> This agreement between the Louisville Army Corps, Detroit Army Corps, NRCS, EPA, USFWS, and DNR can be read at <http://www.lrl.usace.army.mil/orf/info/ICA1097.html>.

RESIDENTIAL SEWAGE DISPOSAL PROGRAM: See section titled, Activities Affecting Groundwater, in this table.				
COMMERCIAL SEWAGE DISPOSAL PROGRAM: See section titled, Activities Affecting Groundwater, in this table.				
RULE 5: Authorizes general permit for construction activities disturbing five or more acres of land. Goal is to reduce pollutants, principally sediment as a result of soil erosion, in storm water discharges into surface waters of the state.	327 IAC 15-5	Detailed criteria and conditions are contained in the rule.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 233-6725 1-800-451-6027  Local SWCD  DNR, Division of Soil Conservation 402 W. Washington St., Rm. W265 Indianapolis, IN 46204 (317) 233-3870	327 IAC 15-5
STORMWATER DISCHARGE ASSOCIATED WITH INDUSTRIAL DISCHARGE: Discharge of stormwater associated with industrial discharge is eligible for a general permit.	327 IAC 15-6	To use a general permit, a person must: (1) sample and characterize stormwater runoff; (2) establish and implement a Storm Water Pollution Prevention Plan (SWPP); and, (3) resample to demonstrate effectiveness of the implemented plan. If the waters are discharged to an outstanding state resource water, also called a water of high quality, or an exceptional use stream, however, an individual NPDES permit must be sought.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 233-6725 1-800-451-6027	327 IAC 15-6

CONCENTRATED ANIMAL FEEDING OPERATIONS: IDEM OLQ is responsible for reviewing confined feeding operation permit applications.	IC 13-18-10  Confined Feeding Program Technical Guidance AW-1 <sup>9</sup>	A permit is needed for new concentrated animal feeding operations, any expansions of existing confined feeding operations, and for existing concentrated feeding operations never before approved.	IDEM, Office of Land Quality 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8871 1-800-451-6027	IC 13-18-10
PESTICIDE PROGRAM: Provides protection of ground water resources through the regulation of pesticide use.	IC 15-3-3 IC 15-3-3.5 IC 15-3-3.6  355 IAC 2 355 IAC 5  INDIANA PESTICIDE STATE MANAGEMENT PLAN <sup>10</sup>  INDIANA PESTICIDE DRIFT ENFORCEMENT POLICY <sup>11</sup>	The registration, sale, transport, use, and application of pesticides are regulated by the State Chemist.	Office of Indiana State Chemist and Seed Commissioner 1154 Biochemistry West Lafayette, IN 47907-1154 (765) 494-1492	IC 15-3-3 IC 15-3-3.5 IC 15-3-3.6  355 IAC 2 355 IAC 5
LAND APPLICATION: IDEM OLQ regulates the land application of sewage treatment plant sludge and industrial waste products.	327 IAC 6.1	An application must conform to the technical criteria outlined in 327 IAC 6.1.	IDEM, Office of Land Quality 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8871 1-800-451-6027	327 IAC 6.1
NONPOINT SOURCE PROGRAM: Established to integrate methods for	33 USC 1329	Promotes a voluntary approach to improving water quality.	IDEM, Office of Water Management	Not applicable.

<sup>9</sup> *Confined Feeding Program Technical Guidance Document, AW-1*, Indiana Department of Environmental Management, 21 IND. REG. 1905 (February 1, 1998).

The document can be downloaded from [http://www.state.in.us/idem/olq/special\\_topics/confined\\_feeding/index.html](http://www.state.in.us/idem/olq/special_topics/confined_feeding/index.html).

<sup>10</sup> A mechanism for protecting the quality of ground water resources. Plan can be accessed at <http://www.isco.purdue.edu/psmp/oiscmain.htm>.

<sup>11</sup> Provides response guidance to the Office of Indiana State Chemist personnel and public in addressing off-target movement of pesticides resulting from drift. Approved by the Indiana State Pesticide Review Board on February 23, 1994. The policy can be found at [http://www.isco.purdue.edu/pesticide\\_drift\\_enforcement\\_policy.htm](http://www.isco.purdue.edu/pesticide_drift_enforcement_policy.htm).

reducing nonpoint source pollution problems. Administers funding from the Clean Water Act under Sections 319, Section 104, Section 104(b)(3), and Section 205(j).	NONPOINT POLLUTION MANAGEMENT PLAN FOR INDIANA 2000-2004 <sup>12</sup>	Standards and criteria for each grant program are identified in the Nonpoint Pollution Management Plan.	100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-0019 1-800-451-6027	
CLEAN LAKES PROGRAM: The program is funded through several grant programs directed to water quality. Indiana University receives the funds to assess the water quality of a number of Indiana lakes each year. (Formerly funded under the Clean Lakes Program as Section 314 of the Clean Water Act.)	(33 USC 1324)		IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206 (317) 232-8491 1-800-451-6027	Not applicable.
CLEAN WATER INDIANA PROGRAM: Financial assistance may be provided to: (1) land occupiers; and, (2) conservation groups to implement conservation practices to reduce nonpoint sources of water pollution through education, technical assistance, training, and cost sharing programs.	IC 14-32-8	Money in the fund may be spent to: (1) increase district technical assistance in local conservation efforts; (2) develop an environmental stewardship program to assist land occupiers in complying with environmental regulations voluntarily; (3) qualify for federal matching funds for county soil survey computerization; (4) provide for cost sharing programs designated by IC 14-32-8; (5) provide matching grants to districts for purposes specified in IC 14-32-8; and, (6) increase state technical and capacity building assistance to districts and local conservation efforts.	DNR, Division of Soil Conservation 402 W. Washington St., Rm. W265 Indianapolis, IN 46204 (317) 233-3870	

<sup>12</sup> The management plan can be found at <http://www.state.in.us/idem/owm/planbr/wsm/watershed/NPSplan/NPSManagementPlan.html>.

		<p>In addition to funds provided to a district for purposes stated above, the Division of Soil Conservation shall pay to the district \$1 for every \$1 the district receives from a political subdivision. The State is not obligated to match more than \$10,000. In order to receive funding under this section, before April 15 of each year a district must certify to the Division of Soil Conservation the amount of money the district received from all political subdivisions during the year beginning April 1 of the previous year. The Division of Soil Conservation shall make distributions under this section not later than July 15 of each year. A district must spend money received under this section for the purposes of the district.</p>		
<p>CLASSIFIED FOREST PROGRAM: Voluntary program for the protection of forested land. Property tax limited to \$1 per acre of classified land.</p>	<p>IC 6-1.1-6-14 and 19 IC 6-1.1-6-2 and 3</p>	<p>(1) A parcel of land may not be classified as native forest land or a forest plantation unless it contains at least ten acres, but the parcel may be of any shape whatsoever. This section does not apply to land classified before July 26, 1967. (2) A parcel of land may not be classified as native forest land or as a forest plantation if it is</p>	<p>DNR, Division of Forestry 402 W. Washington St., Rm. W 296 Indianapolis, IN 46204 (317) 232-4105</p>	<p>Not applicable.</p>

		<p>grazed by a domestic animal. However, this section does not apply to domestic fowl if they do not have a detrimental effect on timber production. (3) A parcel of land may not be classified as native forest land or as a forest plantation if it contains an open area. However, this section does not apply if the open area is authorized by a special permit issued by the state forester.</p> <p>The following types of trees are not considered timber producing trees: dogwoods (Cornus); water-beech (Carpinus); ironwood (Ostrya); red bud (Cercis); sassafras; persimmon; pawpaw; black haw; willows (Salix); pomaceous trees; and Christmas trees which are grown for commercial purposes.</p>		
HOOSIER RIVERWATCH: Increases public awareness of water quality issues by training volunteers to care for and monitor the health of Indiana's streams and rivers.			DNR, Division of Soil Conservation 402 W. Washington St., Rm. W265 Indianapolis, IN 46204 (317) 233-3870	Not applicable.
VOLUNTEER WATER QUALITY MONITORING PROGRAM: Focuses on volunteer lake monitoring and volunteer wetlands monitoring and education. The goals of the program include education about lake and wetland ecology, in addition to providing water quality data			IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206 (317) 232-8476 1-800-451-6027	Not applicable.

to supplement IDEM's lake and wetlands assessment programs. The program is coordinated with DNR, Indiana University, and the Sierra Club.				
Activities Affecting Groundwater				
WATER WELL DRILLER'S LICENSE: Well drillers must pass an examination to be licensed to drill wells. Exam is administered by the DNR, Division of Water, at least twice annually.	IC 25-39  312 IAC 13 327 IAC 8-3.4	An individual must: (1) be at least 18 years of age; (2) furnish evidence from three references, two of whom are water well drillers or licensed plumbing contractors familiar with the applicant's work experience and professional competency; and (3) have successfully completed a competency examination prepared and administered by the department.	DNR, Division of Water, 402 W. Washington St. Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 25-39  312 IAC 13 327 IAC 8-3.4
RESIDENTIAL SEWAGE DISPOSAL PROGRAM: Oversees construction and maintenance of on-site disposal systems for one or two family dwellings for compliance with standards pertaining to sewers, septic tanks, soil absorption systems, temporary holding tanks, and private vault privies.	IC 16-19-3-4  410 IAC 6-8.1 410 IAC 6-8.1-17 410 IAC 6-8.1-49	Detailed construction standards are established by rule at 410 IAC 6-8 and are administered, subject to oversight by the ISDH, through the county health officer.	ISDH, Residential Sewage Disposal and Sanitary Engineering 2 N. Meridian St., 5 <sup>th</sup> Flr. Indianapolis, IN 46204 (317) 233-7177	IC 16-19-3-4  410 IAC 6-8.1 410 IAC 6-8.1-17 410 IAC 6-8.1-49
COMMERCIAL SEWAGE DISPOSAL PROGRAM:	IC 16-19-3-4  410 IAC 6-10-5	Detailed construction standards are established by rule at 410 IAC 6-10 and administered through ISDH.	ISDH, Commercial Sewage Disposal and Sanitary Engineering 2 N. Meridian St., 5 <sup>th</sup> Flr. Indianapolis, IN 46204 (317) 233-7177	IC 16-19-3-4  410 IAC 6-10-5



## Section 5-4: Water Quantity

Northwest Indiana is characterized by the abundant water resource which Lake Michigan provides. This resource locally supported the industrial revolution, and it is a continuing basis for industrial production.

Controversies pertaining to water quantity focus upon having too much or too little water. The common law typically does not provide a remedy to a person who suffers damage to groundwater resources as a result of the actions of another, although some relief is provided by statute in Indiana through the groundwater emergency statute. More notable in this region are concerns with excessive quantities of water: floodway damages, stormwater discharges, and Lake Michigan storm emergencies. The need for more water, though, becomes a concern as more residential areas are developed.

Many tools are available to manage water resources in Indiana. Residential construction in flood plains is regulated according to local ordinances. Certain waterway maintenance activities are regulated locally by standards in state statute. Several statutes addressing activities in floodways, strategies for water emergencies, and planning for future water availability are administered directly by the State. Federal programs are managed directly by federal agencies or indirectly through state government. For example, the Clean Water Act Section 404 permit required for construction activities in federally navigable waters is obtained from the ACOE. The National Flood Insurance Program (NFIP), on the other hand, is administered by the DNR Division of Water with guidance from the Federal Emergency Management Agency. This section outlines Indiana's water resource management mechanisms.

### Managed Activities

- Construction of flood control works, structures, and the alteration of waterways.
- Construction activities within flood plains.
- Reconstruction and maintenance of drains.
- Construction and maintenance of dams, levees, and dikes.
- Diverting water outside the Great Lakes basin in Indiana.
- Water withdrawals.
- Review of proposed conservancy districts.

### Background

#### Regulated Riparianism

The basic concept of riparian rights is that an owner of land abutting a waterway has the right to have the water continue to flow across or stand upon the land, subject to the equal rights of each owner to make strictly limited use of the water. The origins of this concept are ancient and have been variously attributed to Roman Law, the Code Napoleon, or English common law.<sup>1</sup>

In the middle 19th century, courts in England and in the United States were faced with determining rights to groundwater. For the most part, the courts opted for the concept that the landowner held absolute ownership to its groundwater.<sup>2</sup>

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<sup>1</sup> Dellapenna, *The Right to Consume Water Under "Pure" Riparian Rights*, 1 WATERS AND WATER RIGHTS §7.01 (1991).

<sup>2</sup> Murphy and O'Neill, *Legal Classifications*, 3 WATERS AND WATER RIGHTS §20.03 (1991).

The basic legal structure for water use in Indiana has been characterized as “regulated riparianism.” Although the right to use the water is ordinarily associated with the ownership of land beside or within which the water is located; there has been a growing legislative inclination to buffer the most rigid applications of traditional riparian doctrine. Four categories of water sources are recognized, and these categories have implications for the ownership of the water.<sup>3</sup>

The first category is surface water that flows in a permanent channel or is located in another permanent body of water. Included in this category are rivers, streams, lakes, and ponds. At common law, each riparian or littoral owner has “an equal right” to the water, but “no one has a right to use it to the material injury” of another riparian or littoral owner.<sup>4</sup> By statute, a withdrawal for a domestic purpose has “priority and is superior to all other uses.”<sup>5</sup> The common law has also been modified by several statutory provisions governing permanent surface waters. Included among these statutory modifications are those applicable to inland lakes,<sup>6</sup> to Lake Michigan and other navigable waters,<sup>7</sup> and to the emergency regulation of lakes or ponds containing at least ten acres.<sup>8</sup>

The second category is diffused surface waters. Generally, a landowner may use these waters in any manner that suits the landowner’s convenience. “[T]he wild water that lies upon the surface of the earth, or temporarily flows over it as the natural or artificial elevations or depressions may guide or invite it, but without a channel . . . fall within the maxim that a man’s land extends to the center of the earth below the surface, and to the skies above, and are absolute in the owner of the land.”<sup>9</sup> This common law principle has been codified in Indiana. “Diffused surface water flowing vagrantly over the surface of the ground is not considered to be public water. The owner of the land on which the water falls, pools, or flows has the right to use the water.”<sup>10</sup>

With respect to the removal of unwanted diffused surface water, Indiana generally applies the “common enemy” doctrine. A person may lawfully accelerate or increase the flow of surface water by limiting or eliminating ground water absorption or changing the grade of the land. A landowner may not, however, throw or cast surface water upon a neighbor in unusual quantities so as to amplify the force at a particular point. The rule of reasonable use has been rejected as to dispersed waters.<sup>11</sup>

Some statutory relief has been provided to the most extreme applications of the common enemy doctrine. A person may seek assistance from a county drainage board to remove an obstruction to a “natural surface watercourse,” if the obstruction is impeding the disposal of unwanted water. A “natural surface watercourse” means a surface area where water “occasionally and temporarily flows in a definable direction.”<sup>12</sup> Also, when a dispute arises between the users of surface water in a watershed area, a party may request that the NRC mediate the dispute.<sup>13</sup>

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<sup>3</sup> Lucas, *Indiana Survey*, 6 Beck, Waters and Water Rights, 345-356 (1991); Indiana Department of Natural Resources, Northwest Indiana Public Work Groups: 865 Annotations by the Indiana Department of Natural Resources, ¶ 514 (1996).

<sup>4</sup> *Dilling v. Murray*, 6 Ind. 324 (1855).

<sup>5</sup> IC 14-25-1-3. “Domestic purposes” includes water for household purposes and drinking water for domesticated animals.

<sup>6</sup> IC 14-26.

<sup>7</sup> IC 14-29-1-8(a)(2).

<sup>8</sup> IC 14-25-5.

<sup>9</sup> *Taylor v. Fickas*, 64 Ind. 167, 172 (1878).

<sup>10</sup> IC 14-25-1-2(b).

<sup>11</sup> *Argyeland v. Haviland*, 435 N.E.2d 973 (Ind. 1982).

<sup>12</sup> IC 36-9-27.4.

<sup>13</sup> IC 14-25-1-8. See, also, *Mediation and Facilitation in Administrative Proceedings before the Natural Resources Commission and the Department of Natural Resources*, Information Bulletin 13 (First Amendment), Natural Resources Commission, 22 Ind. Reg. 2949 (June 1, 1999).

The third category is water in subterranean streams. Although no case directly addressing this condition has been located in Indiana, a reference from a landmark decision of the Indiana Supreme Court suggests the same standards apply as apply to the first category (surface waters in channels).<sup>14</sup>

The fourth category is “percolating groundwater” or groundwater that lacks a defined channel. “Groundwater is part of the land in which it is present and belongs to the owner of that land.” Where a person uses or disposes of percolating groundwater for a beneficial purpose to the landowner, damage that results to another is generally not actionable unless the damage is deliberate or gratuitous.<sup>15</sup> This common law doctrine for ground water is sometimes referred to as the “English Rule.” Statutory exceptions have been applied to the common law. The most important is probably the Emergency Surface Water Act,<sup>16</sup> but a 1994 Indiana Supreme Court decision, recognizing another exception for surface coal mining, reaffirms the ability of the Indiana General Assembly to change the common law of groundwater ownership.<sup>17</sup> More recently, the Court of Appeals of Indiana made further inroads into the “English Rule” when it determined a landowner could be held liable for subsidence resulting from the removal of ground water. The “clear trend in this state and in other jurisdictions [is] toward ameliorating the often harsh consequences which can result from strict application of the English Rule.”<sup>18</sup>

## **Implementation of Management Techniques**

### **Construction of Flood Control Works, Structures, and the Alteration of Waterways**

A rare state statutory declaration of intent accompanies the Flood Control Act.<sup>19</sup> The Indiana General Assembly has found that the “loss of lives and property caused by floods and the damage resulting from floods is a matter of deep concern to Indiana affecting the life, health, and convenience of the people and the protection of property.” Flood control works, structures, and the alteration of waterways are sought to be regulated and designed according to sound engineering practices in order to minimize flooding problems.<sup>20</sup>

A permit is required from the DNR before a person erects a structure or places fill in a floodway. The “floodway” refers to the channel of a river or stream needed to efficiently carry and discharge flood flows during a 100-year frequency flood. The permit can be issued only if the applicant demonstrates the intended activity will not “[a]dversely affect the efficiency of or unduly restrict the capacity of the floodway” or “constitute an unreasonable hazard to the safety of life or property.”<sup>21</sup> In determining whether to grant a permit, the cumulative effects of a project or projects upon the floodway are also to be considered.<sup>22</sup> The construction of a new “abode or place of residence” within a floodway is prohibited,

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<sup>14</sup> *Gagnon v. French Lick Springs Hotel Co.*, 163 Ind. 687, 696, 72 N.E. 849 (1904).

<sup>15</sup> *Wiggins v. Brazil Coal and Clay Corp., Ind.*, 452 N.E. 2d 958, 963 (1983).

<sup>16</sup> IC 14-25-4 at issue in *Prohosky v. Prudential Ins. Co. of Am.*, 767 F.2d 387 (7th Cir. 1985).

<sup>17</sup> *Natural Resources Comm'n v. Amax Coal Co., Ind.*, 638 N.E.2d 418, 428 (1994). The Indiana Supreme Court reaffirmed the common-law doctrine for percolating groundwater, but it found the Indiana version of the Surface Mining Control and Reclamation Act was intended to establish another exception to the common law by conferring in the Department of Natural Resources the “authority to regulate” a coal company’s use of groundwater.

<sup>18</sup> *City of Valparaiso v. Deppler*, 694 N.E.2d 1177 (Ind. App. 1998); *trans. den.* 1999 (Ind. Lx. 19).

<sup>19</sup> IC 14-28-1.

<sup>20</sup> IC 14-28-1-1.

<sup>21</sup> IC 14-28-1-22(e). Though not germane to the immediate discussion, this subsection also requires an applicant to demonstrate a project will not have unreasonably detrimental effects upon fish, wildlife, or botanical resources.

<sup>22</sup> IC 14-28-1-22(f).

although the repair or reconstruction of a lawful existing residence may be permitted under some circumstances.<sup>23</sup>

The DNR's regulatory authority under the Flood Control Act is limited to the area within the "floodway." For many areas, floodways have been determined through studies performed for the National Flood Insurance Program. In other instances, the boundaries of a floodway are determined by DNR's Division of Water using technical criteria and computer modeling designed to predict areas to be inundated and carrying flood waters during a "regulatory flood."<sup>24</sup>

The NRC also has authority to define a specific geographic area through designation as a "commission floodway." This process requires notice to affected landowners, an opportunity for immediate review, and approval by FEMA before becoming effective.<sup>25</sup> Currently, there are no commission floodways in the coastal area.

Floodway maps are generally available for public inspection in the local plan commission's office or building commissioner's office. They are also available in the DNR Division of Water office in Indianapolis and, for Northwest Indiana, in the DNR Lake Michigan Regional Office.<sup>26</sup>

Floodways exist for all waterways, even if they have not yet been mapped. A person should not assume that because the floodway of a waterway has not been mapped, the Flood Control Act does not apply. If a project is proposed in an unmapped area, consultation with the DNR, Division of Water is advised. In 1994, the "Suggested Division of Water Procedures for Hydraulic Modeling" were developed to assist applicants and their consultants in determining flood plain boundaries where not previously delineated.

Potential projects in a floodway will need to meet requirements of other local, state, or federal laws in addition to the Flood Control Act. Local building commissions should be contacted. Permits from the ACOE under the Clean Water Act or Rivers and Harbors Act may be needed. A Section 401 water quality certification from IDEM might also be involved. If a project subject to permit under the Flood Control Act is also located within a navigable waterway, it does not require a separate permit under the Navigable Waterways Act provided the Navigable Waterways Act evaluation criteria are applied as well.

The Flood Control Act exempts a number of projects either by rule or as a function of the watershed's physical parameters or the project type. For example, streams with drainage areas smaller than one square mile are exempted.<sup>27</sup> A permit exemption allows a logjam to be removed from beneath a bridge where equipment is operated from outside the stream.<sup>28</sup> Certain utility activities and wetland restoration projects within the floodway are also exempted if the projects meet the design standards specified by rule.<sup>29</sup> To qualify for an exemption, the applicant must notify the DNR Division of Water via an exemption request form. The Division is then required to respond to the request within 10 working days. Failure by the Division to respond within this time frame results in an exemption by default.

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<sup>23</sup> IC 14-28-1-24.

<sup>24</sup> IC 14-8-2-102, IC 14-28-1, and 310 IAC 6-1.

<sup>25</sup> *Standards for the Development of a Commission Floodway Pursuant to IC 14-28-1-28*, Information Bulletin 14, Natural Resources Commission, 19 IND. REG. 3240 (August 1, 1996).

<sup>26</sup> Information is taken from the Indiana Department of Natural Resources, Division of Water, Application Assistance Manual found at <http://www.state.in.us/dnr/water>. The DNR Lake Michigan Regional Office is at 100 W. Water Street in Michigan City. Call (219) 874-8316 with questions regarding access to the maps.

<sup>27</sup> 310 IAC 6-1-2(b).

<sup>28</sup> 310 IAC 6-1-21.

<sup>29</sup> Requirements for the utility exemptions are located at 310 IAC 6-1-16. Requirements for the wetland restoration exemption are located at 310 IAC 6-1-15. Requirements for a logjam removal exemption are located at 310 IAC 6-1-21.

### Little Calumet River Basin Development Commission

The Little Calumet River Basin Development Commission was established to "provide for the creation, development, maintenance, administration, and operation of park, recreation, marina, flood control, and other public works projects" along the west arm of Little Calumet River in Lake and Porter Counties.<sup>30</sup> The Commission includes eleven members. The membership includes one member from each of the entities of Lake County, Porter County, Gary, and Hammond. A member is appointed by the Director of the DNR and six members are appointed by the governor.<sup>31</sup>

The Little Calumet River Basin Development Commission is developing the Local Flood Control and Recreation Project for the Little Calumet River in Indiana. The project is being designed and constructed by the ACOE. The project incorporates the segment of the Little Calumet River reaching from the Illinois-Indiana state line to the Consolidated Railroad Corporation railroad crossing in Gary, Indiana. The project entails construction of over 9.7 miles of set-back levees in Gary and Griffith; construction of 12.2 miles of levees and floodwalls in Hammond, Highland, and Munster; installation of a flow diversion structure at the Hart Ditch confluence in Hammond and Munster; modification of four major highway bridges along the river corridor to permit better flow; and creation of 16.8 miles of hiking and biking trails connecting recreational developments.<sup>32</sup>

The project, which started in 1990, will be completed over several phases. Completion is anticipated in the fall of 2006. Expected benefits of the project include the protection of 3,500 acres of existing residential, commercial, industrial, and transportation uses from flooding. Over 9,500 structures, 8,755 of which are residential, are to be protected from flooding. In addition, a 2,000 acre river recreation corridor system will be created.

### **Construction Activities within Flood Plains**

The Flood Control Act is supplemented by the Flood Plain Management Act.<sup>33</sup> While the Flood Control Act is administered by the DNR and has application exclusively to the floodway, the Flood Plain Management Act is administered at the local level and may apply to the entire flood plain. The "flood plain" is the entire area covered by flood waters, including the floodway.<sup>34</sup>

The Flood Plain Management Act is concerned primarily with regulating construction activities within a flood plain, the portion of the flood plain which is not adequately protected by dikes, levees, and similar structures. Counties and municipalities are encouraged to delineate flood plain areas through ordinances that are no less restrictive than the minimum standards, which the NRC sets by rule.<sup>35</sup> The DNR Division of Water has the "Indiana Model Ordinance for Hazard Areas" to assist counties and towns with implementing these ordinances.

The National Flood Insurance Program (NFIP) was established by the National Flood Insurance Act of 1968 and amended with the passage of the Flood Disaster Protection Act of 1973.<sup>36</sup> The Act is administered by the Federal Emergency Management Agency. The DNR Division of Water coordinates

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<sup>30</sup> IC 14-13-2-7.

<sup>31</sup> IC 14-28-5.

<sup>32</sup> Dan Gardner, Meet Our Partner: Little Calumet River Basin Development Commission, CHICAGO BREEZE, 4 (January/February 1998).

<sup>33</sup> IC 14-28-3.

<sup>34</sup> 310 IAC 6-1-3. The portion of the "flood plain" outside the boundaries of a "floodway" is referred to as the "floodway fringe."

<sup>35</sup> IC 14-28-3-2. The rules are set forth at 310 IAC 6-1.

<sup>36</sup> 42 USC 4101, *et seq.* For regulations, see beginning at 44 CFR Part 59.

the NFIP at the state level. In general, the intent of the Act is to provide protection from potential damages caused by floods. It is available to those who need the protection, and who pay an insurance premium for this benefit. Local participation in the NFIP results in a reduction in cost to general taxpayers for disaster relief. The NFIP is implemented via an agreement between municipalities and the federal government. Local communities must agree to manage flood plains to avoid flood risks in order for the residents of the community to be eligible for flood insurance.

In the three coastal county area of Northwest Indiana, 13 communities and the unincorporated areas of the three coastal counties are participating in the regular phase of the NFIP. The regular phase involves the agreement by the communities to adopt special regulations regarding development activities in their designated special flood hazard areas. The shoreline communities participating in the program have adopted ordinances that are filed with the DNR Division of Water. In Lake County, participating shoreline communities include East Chicago, Gary, Hammond, Whiting, and Lake County Unincorporated. Participating communities in Porter County include Burns Harbor, Portage, Ogden Dunes, Dune Acres, Porter, Beverly Shores, and Porter County Unincorporated. LaPorte County communities include Michigan City, Michiana Shores, Long Beach, and LaPorte County Unincorporated.

Generally the local ordinance requires regulation of new development in identified flood plains within the communities. New development activities include building, excavating, filling, or constructing an addition to an existing structure. The lowest floor of a building is required to be two feet above the elevation of the regulatory flood. Most communities follow suggested classification of activities regarded as substantial improvements in special flood hazard areas. Substantial improvements are those that would incur a cost of 50% or more of the structure's value prior to the improvement. East Chicago and Dune Acres have more restrictive ordinances that designate 40% or more of an existing structure value as a substantial improvement.

The NFIP does not currently contain a setback requirement, although some communities have incorporated a setback requirement into their local floodplain ordinances. The Town of Porter has a 30-foot setback requirement for new development along the Lake Michigan shoreline. The City of Michigan City implements a 30 to 50 foot set back along the shoreline depending upon whether the structure is residential or commercial.<sup>37</sup>

The Flood Control Revolving Loan Fund was established by the Indiana General Assembly to provide a revolving loan fund for the use of flood control projects. Projects eligible for the loan include: (1) removal of obstructions and accumulated debris from stream channels; (2) clearing and straightening streams; (3) creating new and enlarged channels; and, (4) the construction of bank protection works. The DNR's Division of Water processes technical reviews with respect to applications. The Fund is administered through the NRC and the State Board of Finance. Money is available to provide financing, not to exceed \$300,000 for a project, to counties, cities, towns, and special taxing districts. Loans under this program may not exceed ten years at an interest rate of 3%.<sup>38</sup>

### **Reconstruction and Maintenance of Drains**

State legislation provides that drainage is largely controlled through county drainage boards. The Drainage Code is primarily concerned with excess water removal.<sup>39</sup> The focus of its impact is upon

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<sup>37</sup> Memo from Gregory Main, Indiana Department of Natural Resources, Division of Water (December 1994).

<sup>38</sup> IC 14-28-5.

<sup>39</sup> IC 36-9-27.

regulated drains.<sup>40</sup> The county surveyor is required to classify all regulated drains as being in need of: (1) reconstruction; (2) periodic maintenance; or, (3) vacation. These classifications are themselves dependent upon the adequacy of the waterway to properly drain lands affected.<sup>41</sup>

The Drainage Code does provide flexibility as to how the county may achieve proper drainage. Tiles may be deepened or widened, drains extended or courses changed, drainage basins and control dams constructed, erosion control and grade stabilization structures provided, or any other "major change to a drainage system that would be of public utility."<sup>42</sup> State and federal requirements, such as the Flood Control Act or the federal Clean Water Act, may still apply to local drainage activities and should be verified with the appropriate agency.

In 1995, Public Law 180<sup>43</sup> sought to provide advance coordination for a project to reconstruct or maintain a regulated drain. An "onsite field investigation" is to be performed by a team including representatives from the county, the DNR, IDEM, and if applicable, the local soil and water conservation district. Restrictions are placed upon terms the DNR may place on a permit governed by the Flood Control Act. For example, the DNR may not "require or recommend" placing a conservation easement at the site of the proposed work. The parties are encouraged to use negotiations to achieve an agreement on permitting terms.

In 1996, the Indiana General Assembly gave new authority to county drainage boards to remove obstructions to a "drain" or "natural surface watercourse."<sup>44</sup> The latter term is defined to include "an area of the surface of the ground over which water from falling rain or melting snow occasionally and temporarily falls in a definable direction."<sup>45</sup> A person may petition to remove an obstruction. Upon the receipt of a petition, the county surveyor performs an investigation and reports to the drainage board as to the findings of the investigation.<sup>46</sup> If the county drainage board finds an obstruction exists and its removal will "promote better drainage of the petitioner's land" and "not cause unreasonable damage to the land of the respondents," the drainage board is required to find for the petitioner.<sup>47</sup>

### **Construction and Maintenance of Dams, Levees, and Dikes**

The owner of a dam, levee, dike, or similar structure is required to maintain the structure consistent with: (1) the exercise of prudence; (2) due regard for life or property; and, (3) the application of sound and accepted engineering principles. In addition, the DNR, Division of Water, Dam and Levee Safety Section makes an engineering inspection of high hazard dams once a year, and significant and low hazard dams every two years. A dam is exempted from the inspection process if it meets the following conditions: (A) is built solely for erosion control, watering livestock, recreation, or providing a haven or refuge for fish or wildlife; (B) has a drainage area above the dam of not more than one square mile; (C) does not exceed 20 feet high; and, (D) does not impound more than 100 acre-feet of water. A levee, dike, or floodwall is exempted if it is under single private ownership and provides protection only to land or other property under the single private ownership. The DNR may order repairs to a structure not sufficiently strong; not

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<sup>40</sup> IC 36-9-27-2.

<sup>41</sup> IC 36-9-27-34.

<sup>42</sup> IC 36-9-27-34(b).

<sup>43</sup> See particularly IC 36-9-27-53.5.

<sup>44</sup> Ind. Pub. L. 239-1996 codified at IC 36-9-27.4.

<sup>45</sup> IC 36-9-27.4-3.

<sup>46</sup> IC 36-9-27.4-12.

<sup>47</sup> IC 36-9-27.4-14.

maintained in a good and sufficient state of repair or operating condition; or unsafe and dangerous to life and property.<sup>48</sup>

### **Diversion of Water**

The commerce clause of the United States Constitution empowers Congress to “regulate Commerce . . . among the several States.”<sup>49</sup> In 1982, the US Supreme Court held that the commerce clause applies to the export of water from one state to another.<sup>50</sup> Congress can authorize the states to impose burdens on the inter-state or inter-basin transfer of surface or ground water which would otherwise violate the commerce clause.

Congress has authorized a state export barrier on water which resulted from the Great Lakes Charter, a document signed in 1985 by the governors of the eight Great Lakes states and the premiers of Ontario and Quebec.<sup>51</sup> The parties agreed in the charter to cooperate in managing water resources of the Great Lakes basin as a single hydrologic system. The charter specifies no state or province should allow major new diversions or consumptive uses without seeking the consent of all affected states and provinces.

Although the Great Lakes Charter lacks binding authority, federal and state legislation was enacted to assist in its implementation. At the federal level, Congress has found that the Great Lakes are an important resource to the eight Great Lakes states and that any additional diversions would have significant economic and environmental impacts. No additional diversions from the Great Lakes or their tributaries may be approved outside the Great Lakes basin without the approval of each Governor of the Great Lakes states.<sup>52</sup>

The Indiana General Assembly has made a legislative finding “that a diversion of water out of the Great Lakes will impair or destroy the Great Lakes.” For this reason, “[w]ater may not be diverted from that part of the Great Lakes drainage basin within Indiana for use in a state outside the basin, unless the diversion is approved by the governor of each Great Lakes State.”<sup>53</sup> Indiana has also enacted state legislation approving participation in the Great Lakes Basin Compact.<sup>54</sup>

On June 18, 2001, the Council of Great Lakes Governors issued a supplemental agreement to the Great Lakes Charter concerning water diversion. This agreement reaffirmed that “the provisions of the Charter will continue in full force and effect”. The agreement also included a commitment to “further implementing the principles of the Charter by developing an enhanced water management system that is simple, durable, efficient, retains and respects authority within the Basin, and most importantly, protects, conserves, restores, and improves the Waters and Water-Dependent Natural Resources of the Great Lakes Basin.” The Council agreed to develop and implement a new conservation standard to be applied to new water withdrawal proposals from the waters of the Great Lakes Basin.

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<sup>48</sup> IC 14-27-7.

<sup>49</sup> U.S. CONST. art. I, §8, cl. 3. For an extensive discussion of the application of the commerce clause to inter-state and inter-basin transfers of water, see Grant, *State Regulation of Interstate Water Export*, 4 Beck, WATERS AND WATER RIGHTS, 589-650 (1991).

<sup>50</sup> *Sporhase v. Nebraska ex rel. Douglas*, 458 U.S. 941 (1982).

<sup>51</sup> COUNCIL OF GREAT LAKES GOVERNORS, FINAL REPORT AND RECOMMENDATIONS: GREAT LAKES GOVERNORS TASK FORCE ON WATER DIVERSION AND GREAT LAKES INSTITUTIONS, 40-45 (1985).

<sup>52</sup> 42 USC 1962d-20.

<sup>53</sup> IC 14-25-1-11.

<sup>54</sup> IC 14-25-13-4.



## Water Withdrawals

### Water Shortage Plan

In 1991, the Indiana General Assembly enacted House Bill 1260 requiring the DNR's Advisory Council for the Bureau of Water and Resource Regulation, augmented with additional citizen membership appointed by the Governor, to develop a plan to meet the needs of citizens and the environment if a water shortage in Indiana threatens: (1) the health, safety, welfare, or economic well-being of the citizens; or, (2) the environment.<sup>55</sup> A water shortage was defined as a "limitation of the water supply resulting from natural phenomenon such as drought and problems of water distribution and use."<sup>56</sup>

The Water Shortage Plan was finalized in 1994 and recognized that water shortage management might occur on a state, regional, or local level. Basins were viewed as a primary unit for determining water shortage contingency regions, including the Lake Michigan basin of Northwest Indiana. The Plan recommended the establishment of a Water Shortage Task Force under the direction of the Governor or Lieutenant Governor, with representation from the SEMA, DNR, IDEM, Commissioner of Agriculture, Indiana Utility Regulatory Commission, and ISDH.

A water contingency plan, an element of the Water Shortage Plan, was recognized in three phases, determined by application of the Palmer Hydrologic Drought Index or exceedance values of regionalized monthly average river flows, depending upon the nature and severity of the water shortage: (1) a "water shortage watch" would alert government agencies and the public concerning the onset of conditions which indicated the potential for future water shortage problems. At this stage, voluntary water conservation measures would seek an overall reduction in water use of 5% in the affected areas; (2) a "water shortage warning" would prepare for a coordinated response to imminent water shortage conditions and would initiate "concerted voluntary conservation measures in an effort to avoid or reduce shortages, relieve stressed sources, and if possible forestall the need for mandatory water use restrictions." A reduction in current water use of 10% to 15% would be sought in the affected areas; and, (3) a "water shortage emergency" would seek to "marshall all available resources to respond to actual emergency conditions, to avoid depletion of water resources, to assure at least minimum water supplies to protect public health and safety, to support essential and high priority water uses and to avoid unnecessary economic dislocations." The DNR and SEMA would submit to the Governor a draft water shortage emergency proclamation. "As warranted by conditions, the Governor, pursuant to his authority under IC10-4-1, will consider and issue a proclamation declaring a state of water shortage emergency for the affected area(s)."<sup>57</sup>

### Water Resource Management

In 1983, Indiana adopted from the Model Water Code, with respect to water consumption, a variation of the "reasonable-beneficial use" definition.<sup>58</sup> "Reasonable-beneficial use" refers to "the use of water for a beneficial use in the quantity and manner that is: (1) necessary for economic and efficient utilization; and, (2) both reasonable and consistent with the public interest."<sup>59</sup> A "beneficial use" is very broadly construed to include "any useful and productive purpose" including domestic, agricultural (including

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<sup>55</sup> Indiana House Bill 1260 was codified as IC 13-2-6.1-10 (repealed).

<sup>56</sup> Department of Natural Resources, INDIANA'S WATER SHORTAGE PLAN, 2 (1994).

<sup>57</sup> Department of Natural Resources, INDIANA'S WATER SHORTAGE PLAN, 3-16 (1994).

<sup>58</sup> Ind. P.L. 164, 1983, originally codified as IC 13-2-6.1 and recodified in 1995 as IC 14-25-7. This chapter should be read in light of IC 14-25-1, although the latter chapter may now be subordinate.

<sup>59</sup> IC 14-25-7-6.

irrigation), industrial, commercial, power generation, energy conversion, public water supply, waste assimilation, navigation, fish and wildlife, and recreational.<sup>60</sup>

The reasonable-beneficial use concepts are significant primarily to developing and maintaining inventories of water resources. The NRC is required to assess: (1) the capabilities of streams to support instream and withdrawal uses, and of aquifers to support withdrawal uses; (2) low stream flow characteristics; (3) existing uses and projections of beneficial use requirements; (4) data regarding flood waters; and, (5) other information needed to properly define water resource availability.<sup>61</sup> At the same time, the NRC may establish minimum stream flows by rule, “taking into account the varying low flow characteristics of the streams of Indiana and the importance of instream and withdrawal uses, including established water quality standards and public water supply needs.”<sup>62</sup>

The DNR Division of Water, serving as the NRC’s technical staff, conducts ongoing investigations of water resource availability, water use, and conflicts that arise due to limited water supply or competing uses in each of the 12 drainage basins designated by the NRC. The comprehensive assessments are published by the DNR and made available to the public.<sup>63</sup>

In 1983, legislation was enacted that requires owners of significant water withdrawal facilities to register these facilities and report annual water use to the NRC through the DNR.<sup>64</sup> A registration form can be obtained from the DNR Division of Water. Significant water withdrawal facilities are defined as facilities capable of withdrawing at least 100,000 gallons per day of surface water, ground water, or surface water and ground water combined. Registered withdrawals in the Lake Michigan area totaled almost 1,128 billion gallons during 1990.<sup>65</sup>

Facilities capable of withdrawing less than 100,000 gallons of water per day are not required to be registered for annual pumpage. The estimate is that non-registered facilities in the Lake Michigan area withdrew approximately 2.4 billion gallons of water in 1990.

The Natural Resources Commission is also given authority, by rule, to require a permit for most water withdrawals from navigable waters. This authority has not been exercised.<sup>66</sup>

### Groundwater Emergencies

Problems with competing usages of groundwater, and with the application of the strict common-law doctrines by the courts to those uses, resulted in state legislation aimed at alleviating “groundwater emergencies.”<sup>67</sup> The original 1982 provisions applied only to Newton County and Jasper County, site of the farm at issue in *Prohosky v. Prudential Ins. Co. of Am.*,<sup>68</sup> and several other large irrigation operations.

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<sup>60</sup> IC 14-25-7-2.

<sup>61</sup> IC 14-25-7-13.

<sup>62</sup> IC 14-25-7-14(b). Rule adoption under this statutory chapter is to be performed by the Commission, upon the advice of the Advisory Council for the Bureau of Water and Resource Regulation, whose membership is to be augmented by four members of the Indiana General Assembly for this purpose. Rules pertaining to minimum stream flows have not been adopted.

<sup>63</sup> Water resources in the coastal area were analyzed by DNR and published in *WATER RESOURCE AVAILABILITY IN THE LAKE MICHIGAN REGION, INDIANA* in 1994. Call (317) 232-4160 to obtain a copy of the report.

<sup>64</sup> IC 14-25-7-15.

<sup>65</sup> Indiana Department of Natural Resources, *WATER RESOURCE AVAILABILITY IN THE LAKE MICHIGAN REGION, INDIANA*, 19 (1994).

<sup>66</sup> IC 14-29-1-8(a)(2). An important exception to the permitting requirement is provided for public and municipal water utilities.

<sup>67</sup> IC 14-25-4.

<sup>68</sup> *Prohosky v. Prudential Ins. Co. of Am.*, 767 F.ed 387 (7th Cir. 1985).

The law has had its best-known applications in the Kankakee River watershed, but in 1985 it was rewritten and made applicable throughout the State.

Administered by the DNR, the law does not establish a permitting process but is instead triggered upon the filing of a complaint by an aggrieved person. The owner of a groundwater withdrawal facility with a capability of withdrawing less than 100,000 gallons of water a day, whose water supply is damaged by the owner of a groundwater withdrawal facility with a capability of withdrawing more than 100,000 gallons of water per day, may seek administrative relief. In most instances, the law does not preclude a high-capacity user from impacting groundwater levels; however, if levels are lowered to a point where a domestic well fails, the owner of the high capacity facility must provide an alternate supply of water to the homeowner. The DNR may restrict high-capacity groundwater pumping if water withdrawals are exceeding the recharge capability of an aquifer, but a pumping restriction has occurred only once.<sup>69</sup> There are several statutory requirements which must be met before relief can be granted, most of which relate to causation. Also, the legislation sought to maximize efficient groundwater utilization for commercial and domestic users; in order to receive statutory protection, new wells must conform to construction standards set by rule.<sup>70</sup>

### Surface Water Emergencies

Legislation parallel to the Groundwater Emergency Act does not exist for withdrawals from surface water, although a 1990 enactment provides some opportunity for relief if a lake larger than ten acres is being lowered by the withdrawal of 100,000 or more gallons of water daily within ½ mile of the lake.<sup>71</sup> Before relief is accorded, there must be a showing of significant environmental harm. Even then, a significant water user may post a bond rather than terminate operations, unless the DNR shows the lake or an adjacent property contains an extraordinary or unique natural resource that would be irreparably damaged if water withdrawals continue. The DNR has never issued an order under this statutory chapter.<sup>72</sup>

### Lake Protection Legislation

There are several statutes which provide some degree of protection for water levels and quantities. These do not apply directly to Lake Michigan, either because of a statutory exemption or due to the vast volume of Lake Michigan. The statutes are pertinent to the inland lakes located within Northwest Indiana and in the Indiana portion of the Lake Michigan basin.<sup>73</sup>

The Lake Preservation Act provides that a person cannot change the level of a public freshwater lake by excavating, filling in, or otherwise causing a change in its area, depth, or contour without obtaining a permit from the DNR.<sup>74</sup> Another statute requires a permit from the DNR before a person may alter a

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<sup>69</sup> Indiana Department of Natural Resources, NORTHWEST INDIANA PUBLIC WORK GROUPS: 865 ANNOTATIONS BY THE INDIANA DEPARTMENT OF NATURAL RESOURCES, ¶ 569 (1996).

<sup>70</sup> These standards are set forth at 310 IAC 16.5. For wells constructed from 1986 through 1991, the applicable standards are set forth at 9 IND. REG. 1242.

<sup>71</sup> Ind. P.L. 101-1990. Originally codified as IC 13-2-2.6 and currently codified as IC 14-25-5.

<sup>72</sup> Personal communication with Mark Basch, Department of Natural Resources (July 1996).

<sup>73</sup> "Public freshwater lakes" include Fancher Lake and Lake George (Hobart) in Lake County; Canada Lake, Flint Lake, Long Lake, Loomis Lake, and Wauhob Lake in Porter County; Swede Lake in LaPorte County; and Pinhook Park Lake and St. Mary's Lake in St. Joseph County. There are a myriad of public freshwater lakes on the eastern end of the St. Joseph River basin, particularly in Steuben and Lagrange Counties. A listing of major inland lakes in Indiana's St. Joseph River watershed is found in the following publication: Indiana Department of Natural Resources, Appendix 6, WATER RESOURCE AVAILABILITY IN THE ST. JOSEPH RIVER BASIN, INDIANA, (1987). In many instances, the statutory protections also extend to small inland lakes which would not qualify as public freshwater lakes.

<sup>74</sup> IC 14-26-2-6.

ditch or drain with a level lower than, and located within ½ mile of, a lake containing at least ten acres.<sup>75</sup> A third statute makes it a Class C infraction to lower a lake containing at least 20 acres more than a foot below its elevation as established by a dam or other control structure.<sup>76</sup> A fourth statute provides that a person cannot establish a ditch or drain with a bottom depth lower than the level of a freshwater lake, and located within ½ mile of the lake, “unless a dam has been provided for and constructed to adequately protect the water level of each lake likely to be affected.”<sup>77</sup> Yet another statute establishes a petitioning process to “stabilize, raise, or establish and maintain the level” of a lake through the use of a dam or other control structure or by “diverting water into or away from the lake, pumping water into or out of the lake, or other means.”<sup>78</sup> As an aide in evaluating the acceptability of a project, the DNR developed a series of maps which illustrate zones of special concern within and along the public freshwater lakes. These maps were published as a nonrule policy document. The maps are not inclusive of all public freshwater lakes in the State. For lakes that have not been mapped, the DNR will evaluate a project's impact on a case-by-case basis.

### **Conservancy Districts**

The Indiana Conservancy Act provides for the creation of conservancy districts for several purposes, including purposes related to water quantity issues. For instance, a district can be formed for: (1) flood prevention and control; (2) improving drainage; (3) providing for irrigation; (4) providing water supply; and, (5) storage of water for augmentation of stream flow. Historically districts have been formed for flood prevention and control, developing multi-million dollar projects in cooperation with the federal government. In the last couple decades, more districts have formed for the purposes of serving the needs of communities for water supply and drainage. The Indiana Conservancy Act is administered by the local court with technical assistance from the DNR Division of Water.<sup>79</sup>

#### **Conservancy Districts in Northwest Indiana**

<b>County</b>	<b>Location</b>	<b>Name of District</b>	<b>Purpose</b>
Lake	Merrillville	Independence Hill Conservancy District	Sewage, Drainage, and Flood Control
Lake	Gary	Lake Conservancy District	Sewage
Lake	Merrillville	Merrillville Conservancy District	Sewage
LaPorte	LaPorte	39 North Conservancy District	Sewage and Water
LaPorte	LaPorte	Pine Lake Conservancy District	Sewage
LaPorte	LaPorte	Fish Lake Conservancy District	Drainage
Porter	Chesterton	Indian Boundary Conservancy District	Sewage
Porter	Hebron	Lake Eliza Conservancy District	Sewage, Drainage, and

<sup>75</sup> IC 14-26-5-3.

<sup>76</sup> IC 14-26-6-3.

<sup>77</sup> IC 14-26-7-3.

<sup>78</sup> IC 14-26-8-3.

<sup>79</sup> IC 14-33.

		District	Water Supply
Porter	Portage	Twin Creeks Conservancy District	Flood Control and Drainage
Porter	Valparaiso	Valparaiso Lakes Area Conservancy District	Sewage, Drainage, and Water Supply
Porter	Wheeler	White Oak Conservancy District	Sewage, Drainage, and Water Supply
Porter	Furnessville	Dunes Country at Furnessville Conservancy District	Drainage, Irrigation, Water supply, Sewage, Parks etc., Topsoil, Operation-Maintenance

## Matrix 5-4: Cross-reference of Water Quantity Laws and Guidance Documents

<i>Program or Activity</i>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
Construction of Flood Control Works, Structures, and the Alteration of Waterways				
CONSTRUCTION IN A FLOODWAY PERMIT PROGRAM: <sup>1</sup> Flood control works, structures, and the alteration of waterways are to be designed according to sound engineering practices to minimize flooding. A DNR permit is required before these types of activities are undertaken.	<p>IC 14-28-1</p> <p>310 IAC 6-1</p> <p>Standards for the Development of a Commission Floodway Nonrule Policy</p> <p>DNR APPLICATION ASSISTANCE MANUAL (1996)</p> <p>INDIANA DRAINAGE HANDBOOK: AN ADMINISTRATIVE AND TECHNICAL GUIDE FOR ACTIVITIES WITHIN INDIANA'S DRAINAGEWAYS (1996)</p>	<p>(1)Impact of the activity on the capacity of the floodway; (2) hazard to the safety of life or property; and, (3) the cumulative effects of a project or projects upon the floodway.</p> <p>If a project subject to permit under the Flood Control Act is also located within a navigable waterway, it does not require a separate permit under the Navigable Waterways Act provided the Navigable Waterways Act evaluation criteria are applied as well.</p>	<p>DNR, Division of Water, 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755</p>	<p>IC 14-28-1</p> <p>310 IAC 6-1</p>

<sup>1</sup> Additional information regarding the construction in a floodway permit program, and the opportunity for electronic permit application filing can be accessed at <http://www.state.in.us/dnr/water>.

<b><i>Program or Activity</i></b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
SECTION 401 WATER QUALITY CERTIFICATION PROGRAM: Certification is required for an activity that may result in any discharge into navigable waters. Activities are reviewed for consistency with state water quality standards. The certification is required before permits sought under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 are approved. See also section titled Natural Areas, Fisheries, Wildlife, and Native and Exotic Species.	33 USC 1341 IC 13-18-4-5 IC 13-13-5-1  327 IAC 2-1.5-5-4	Standards in the water quality rules are applied to the water quality certification program.	IDEM, Office of Water Management 100 N. Senate Ave. Box 6015 Indianapolis, IN 46206-6015 (317) 233-8488	Section 401 water quality certification
Construction Activities within Flood Plains				
FLOOD PLAIN MANAGEMENT: Construction activities within a flood plain are regulated through local ordinance. Standards are set by rule for delineation of flood plains by local governments. Local ordinance is required for participation in the NFIP.  DNR, Division of Water staff are available to provide technical assistance for ordinance development. Staff also review ordinances for compliance with standards set by rule.	IC 14-28-3  310 IAC 6-1	Varies by local ordinance. Generally applies to new development activities, such as building, excavating, filling or construction of an addition to an existing structure, in flood hazard areas. Lowest floor of a building must be two feet above the base flood elevation. Substantial improvement (minimum of 50% of prior value of structure) of a damaged structure is prohibited. Some local ordinances include setback requirements.	Local government.  DNR, Division of Water, 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-28-3  310 IAC 6-1
NATIONAL FLOOD INSURANCE PROGRAM: Provides a mechanism for protection from potential flood damages for those who pay an insurance premium	IC 14-28-1 IC 14-28-3	The NRC is authorized to "[c]ooperate with and obtain, approve, and accept works or a grant of any character or	FEMA, Region V 536 S. Clark St., 6 <sup>th</sup> Flr. Chicago, IL 606051-1521	Not applicable.

<b><i>Program or Activity</i></b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
for this benefit.		description from and through an agency of the United States relating to flood control and water resources.	(312) 408-5504  DNR, Division of Water 402 W. Washington St., Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	
EMERGENCY MANAGEMENT AND DISASTER: Counties must maintain a county emergency management advisory council and a county emergency management organization or participate in an interjurisdictional disaster agency.	IC 10-4-1-10	The State Emergency Management Agency prepares and maintains a state emergency plan to prevent and respond to disasters. The agency also plays and integral part in the development and revising of local disaster plans required by statute.	SEMA 302 W. Washington St. Indianapolis, IN 46204 (317) 232-3980	Not applicable.
FLOOD CONTROL REVOLVING LOAN FUND: Provides revolving loan fund for flood control projects.	IC 14-28-5	State Board of Finance and the Natural Resources Commission must find that: (1) there is a need for the project to protect health, safety, and general welfare of the community; (2) the project is based on sound engineering principles, is in the interest of flood control, and will accomplish the objectives of flood control; and, (3) there is assurance that the local government will satisfactorily operate and maintain project after completion.	DNR Division of Water 402 W. Washington St., Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	Not applicable.



<b><i>Program or Activity</i></b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
<b>Reconstruction and Maintenance of Drains</b>				
DRAINAGE: State legislation provides that drainage is largely controlled through county drainage boards. Concerned primarily with excess water removal, the focus of the legislation is upon regulated drains.	IC 36-9-27	<p>The county surveyor is required to classify all regulated drains as being in need of: (1) reconstruction; (2) periodic maintenance; or, (3) vacation. These classifications are themselves dependent upon the adequacy of the waterway to properly drain lands affected.</p> <p>State and federal requirements, such as the Flood Control Act or the federal Clean Water Act, may still apply to local drainage activities and should be verified with the appropriate agency.</p>	County Surveyor	Not applicable.
<b>Construction and Maintenance of Dams, Levees, and Dikes</b>				
DAMS, LEVEES, AND DIKES: The DNR inspects dams, levees, and dikes to ensure the structures are sound. An owner may be ordered to make repairs if the structure is not compliant with proper engineering requirements.	IC 14-27-7	<p>The owner of a dam, levee, dike, or similar structure is required to maintain the structure consistent with: (1) the exercise of prudence; (2) due regard for life or property; and, (3) the application of sound and accepted engineering principles.</p> <p>A dam is exempted from the inspection process if it meets the following conditions: (A) is built solely for erosion control,</p>	DNR Division of Water 402 W. Washington St., Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-27-7

<i>Program or Activity</i>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		watering livestock, recreation, or providing a haven or refuge for fish or wildlife; (B) has a drainage area above the dam of not more than one square mile; (C) does not exceed 20 feet high; and, (D) does not impound more than 100 acre-feet of water. A levee, dike, or floodwall is exempted if it is under single private ownership and provides protection only to land or other property under the single private ownership.		
Diversion of Water				
GREAT LAKES DIVERSIONS: Water from the Great Lakes can not be transported out of the basin for consumption without approval.	IC 14-25-1-11  Great Lakes Charter	Water may not be diverted from that part of the Great Lakes drainage basin within Indiana for use outside the basin, unless the diversion is approved by the governor of each Great Lake state.	DNR, Division of Water 402 W. Washington St., Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-25-1-11
Water Withdrawals				
WATER SHORTAGE PLAN: Phased strategy to be enacted should a water shortage on a state, regional, or local level, threaten the well-being of citizens or the environment.	1991, H.B. 1260  Indiana's Water Shortage Plan (1994).	Phases of the plan include a: (1) water shortage watch to alert government agencies that water shortage conditions exist; (2) water shortage warning to prepare a coordinated response to immediate shortage conditions	SEMA 302 W. Washington St. Indianapolis, IN 46204 (317) 232-3980  DNR, Division of Water	Indiana's Water Shortage Plan (1994).

<b><i>Program or Activity</i></b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		and initiate voluntary efforts to avoid shortages; and, (3) water shortage emergency to marshal all available resources to respond to emergency conditions.	402 W. Washington St., Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	
SIGNIFICANT WATER WITHDRAWAL FACILITY REGISTRATION: Owners of significant water withdrawal facilities must register these facilities and report annual water use.	IC 14-25-7-15	Facility must register with DNR if capable of withdrawing at least 100,000 gallons per day of surface water, ground water, or surface and ground water combined.	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-25-7-15
GROUNDWATER EMERGENCY: Mechanism for relief for a person whose water supply is damaged by another's groundwater withdrawal. Rules set construction standards for new wells.	IC 14-25-4  312 IAC 12	Owner of a facility capable of withdrawing less than 100,000 gallons per day may seek relief if water supply is damaged by a facility capable of withdrawing more than 100,000 gallons per day. In addition, high capacity groundwater pumping may be restricted if withdrawals exceed the recharge capability of the aquifer.	DNR, Division of Water 402 W. Washington St., Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-25-4  312 IAC 12
SURFACE WATER EMERGENCY: Mechanism for relief if the level a lake ten acres or more is lowered.	IC 14-25-5	Relief may be available if a lake larger than ten acres is being lowered by a withdrawal of 100,000 or more gallons of water daily within ½ mile of the lake. Must be a showing of significant environmental harm to lake or adjacent property.	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-25-5

<b><i>Program or Activity</i></b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
<p>LAKE PERMIT PROGRAM: Provides protection for water levels and quantity of public freshwater lakes. Activities regulated include: (1) Changing the water level of a public freshwater lake by excavating, filling in, or otherwise causing a change in its area, depth, or contour. (2) Altering a ditch or drain with a level lower than, and located within ½ mile of, a lake containing at least ten acres. (3) Lowering a lake containing at least 20 acres more than a foot below its elevation as established by a dam or other control structure. (4) Establishing a ditch or drain with a bottom depth lower than the level of a freshwater lake, and located within ½ mile of the lake. (5) Stabilizing, raising, or maintaining the level of a lake.</p> <p>Lake Michigan, Wolf Lake, and Lake George in Hammond are exempted.</p>	<p>IC 14-26-2 IC 14-26-5 IC 14-26-6 IC 14-26-7 IC 14-26-8</p> <p>312 IAC 11</p> <p>Wetlands Within Public Freshwater Lakes Nonrule Policy Document<sup>2</sup></p> <p>SHORELINE PROTECTION GUIDE</p>	<p>DNR staff assess singular and cumulative impacts on the lake and its resources using the criteria outlined in IC 14-26-2 involving natural resources, natural scenic beauty, and recreational purpose.</p> <p>The criteria evaluated during a project's assessment include: (1) whether or not the project will result in a taking of the lake; (2) whether or not the project will result in significant environmental harm to the lake; and, (3) whether or not the project will adversely impact navigation.</p>	<p>DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755</p>	<p>IC 14-26</p> <p>312 IAC 11</p>
Conservancy Districts				
<p>CONSERVANCY DISTRICTS: Special taxing unit formed by interested landowners for the purpose of: (1) flood prevention and control; (2) improving drainage; (3) providing for irrigation; (4) providing water supply; or, (5) storage of</p>	<p>IC 14-33</p>	<p>A district may be formed if the circuit court finds the proposed district: (1) appears necessary; (2) holds promise of economic and engineering feasibility; (3) seems to offer benefits in excess of costs</p>	<p>DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160</p>	<p>Not applicable.</p>

<sup>2</sup> Information Bulletin 10, Natural Resources Commission, 19 IND. REG. 940 ( January 1, 1996).

<b><i>Program or Activity</i></b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
<p>water for augmentation of stream flow.</p> <p>Technical assistance is provided by the DNR, Division of Water.</p>		<p>and damages for a purpose other than water supply, storage of water for augmentation of stream flow, or sewage disposal; (4) serves the public health immediately or prospectively for the purposes of water supply, sewage disposal, or storage of water for augmentation of stream flow; (5) propose to cover and serve a proper area; and, (6) could be established and operated in a manner compatible with established conservancy districts, flood control projects, reservoirs, lakes, drains, levees, and other water management or water supply projects.</p>	1-877-928-3755	

## Section 5-5: Natural Areas, Fisheries, Wildlife, and Native and Exotic Species

The development of Northwest Indiana is largely attributed to the wealth of natural resources. Water, timber, wildlife, native plants, and sand provided the materials needed for prosperity. The prosperity cannot be supported if these natural resources no longer exist or are degraded to a point that they can no longer be used. “Sustainability” has become a common word in the development of economic and natural resources policies.

Wetlands provide numerous benefits and play a major role in maintaining Indiana’s water quality. The hydrology of Northwest Indiana has been drastically altered since 1900. Between the Calumet Beach Ridge (a narrow area just south of the west arm of the Little Calumet River) and the Lake Michigan sand hills formed over years by fluctuating lake levels, a vast wetland existed. Wetlands dotted other areas of the sand hills and further inland, but none so continuous as the wetland north of the Calumet Beach Ridge. From Michigan City west through the Indiana Dunes National Lakeshore lay the Great Marsh, which averaged half a mile in width. As the area became more populated and industrial development and agricultural production desirable, wetlands were drained. Portions of the Great Marsh still exist, as do numerous others throughout the coastal area. Still more are being restored. Challenges though to protecting wetlands are still abundant.

In the late 1970s the DNR Division of Fish and Wildlife identified select wetlands in the Lake Michigan watershed in Lake, Porter, and LaPorte Counties. The study by the Division of Fish and Wildlife called for the exploration of 45 wetland areas which were individually larger than 25 acres. Following field inspection, the wetlands were rated according to several predetermined factors. The process resulted in the documentation of 25 priority wetlands.

In 1996, the DNR Division of Nature Preserves re-evaluated these wetlands to learn what changes had taken place over the last 20 years. The 25 priority wetlands were revisited to determine whether they had changed in terms of size, cover type, and context. The wetlands were found to be basically intact. Most were still the same size as they were in 1979, and two had increased in size due to a man-made pond addition and a cropland reversion. Cover types were generally the same as well. The biggest change since 1979 was in terms of context. Most of the wetlands surveyed were rural 20 years ago. In 1996, these areas have become urbanized resulting in over half of the sites adjoining housing developments. While none of the wetlands have been filled or destroyed, the integrity of the wetlands is threatened.<sup>1</sup>

As natural resources have been used, fragmented, or degraded, nonnative species have been introduced both intentionally and unintentionally. Species such as the alewife, purple loosestrife, phragmites, zebra mussel, and the goby have survived and prospered in Lake Michigan and the coastal area. At the same time, these exotic species are altering the natural landscape of the coastal area by replacing native species.

The concept of biological diversity explains that each species plays a role in a healthy ecosystem. As species become extinct, the system weakens and the ecosystem is susceptible to collapse. The collapse of lake trout populations and the alarming decline of yellow perch populations in the middle 1990’s showed this phenomenon in Lake Michigan.

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<sup>1</sup> Department of Natural Resources, Division of Nature Preserves, The Status of the Top 25 Priority Wetlands in Indiana’s Coastal Zone: A Comparison 1979-1996.

Sprawling urbanization has led to the fragmentation of ecosystems. Species are limited in their ability to disperse or colonize when separated by roads, buildings, or industrial complexes. Corridors can be established through easements along waterways, in abandoned railroad rights of way, or along power lines. Local communities may use incentive programs to encourage the establishments of corridors to connect isolated habitats.

Initiatives directed to native and exotic species are inter-related. Voluntary efforts, in cooperation with the DNR or the Indiana Dunes National Lakeshore, have been important to reintroducing or expanding the ranges of native species, such as Peregrine falcons and lupines. The Lake County Parks Department is developing a native species nursery.

This section outlines the resources Indiana uses to manage natural areas, fisheries, wildlife, and native and exotic species in the coastal region.

### **Managed Activities**

- Filling, dredging, and alteration of wetlands and special aquatic sites.
- Activities affecting natural areas, nature preserves, wildlife habitat areas, fish habitat areas, and areas of exceptional ecological significance.
- Hunting, fishing, trapping, and related activities.
- Activities affecting fish and wildlife habitat areas.
- Activities affecting fish and wildlife.
- Activities affecting rare and endangered animal and plant species.
- Introduction or propagation of exotic species.

### **Background**

In 1872, President Ulysses Grant signed into existence the world's first national park--Yellowstone Park. The 2.2 million acres of wilderness was set aside for "the benefit and enjoyment of the people."<sup>2</sup> In the final two decades of the 19th century and the first two of the 20th century, the movement toward a federal system of parks and refuge areas would gain momentum. The movement was perhaps best epitomized by President Theodore Roosevelt. He wrote in 1912, "The establishment of the National Park Service is justified by considerations of good administration, of the value of natural beauty as a National asset, and of the effectiveness of outdoor life and recreation in the production of good citizenship."<sup>3</sup>

In 1916, Congress created the National Park Service and delegated the authority for its administration to the Department of Interior. The fundamental purpose for the designation and protection of areas as national parks was "to conserve scenery and natural and historic objects and the wildlife therein" and to provide for their unimpaired enjoyment by current and future citizens.<sup>4</sup>

This movement was also felt on the state level. In 1915, Indiana Governor Samuel M. Ralston appointed a state park commission. The following year, the commission began acquisition of what would later become Indiana's first two state parks--McCormick's Creek and Turkey Run. Colonel Richard Lieber, the first director of the Indiana Department of Conservation, in 1928 defined a state park as "a typical

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<sup>2</sup>. Haines, The Yellowstone Story: A History of Our First National Park (1996).

<sup>3</sup>. Roosevelt, Theodore, *A National Park Service*, The Outlook (Feb. 3, 1912).

<sup>4</sup>. 16 U.S.C. 1.

portion of the state's original domain; a tract of adequate size, preserved in primeval, unspoilt, 'unimproved' or 'beautified' condition."<sup>5</sup>

The Prairie Club of Chicago was an early supporter of a park to preserve a portion of Indiana's dunes, and its movement to develop the park can be dated to at least 1916. In 1923, the Indiana Dunes State Park was authorized by state statute.<sup>6</sup> The Indiana Dunes National Lakeshore was established by an act of Congress in 1966, "to preserve for the educational, inspirational and recreational use of the public certain portions of the Indiana Dunes and other areas of scenic, scientific, and historic interest and recreational value of the State of Indiana . . . ."<sup>7</sup>

Legislation has also been enacted to promote a variety of other uses supportive of natural areas, fisheries, wildlife, and native species. In Indiana, state forest preserves were authorized in 1901.<sup>8</sup> Sites could be designated for fish spawning in "lakes and streams of this state where taking fish was unlawful" pursuant to a 1935 enactment.<sup>9</sup> Another example is the system of nature preserves that was authorized in 1967.<sup>10</sup>

The National Park Service recently ranked exotic plants as the greatest threat, and exotic animals as the fourth greatest threat, to the national parks. Since the earliest European contact, a variety of exotic species have been introduced into the United States. One storied example is of a Shakespeare devotee who decided near the end of the 19th century to introduce every bird mentioned by the bard into New York's Central Park. The starling is said to be among his successful efforts. A recent estimate placed the number of self-sustaining exotic species populations at 4,500, of which 122 have officially been recognized as "harmful."<sup>11</sup>

Yet until recently, the regulation of exotic species has been directed almost exclusively to their potential for adverse impacts upon agriculture or other commercial ventures, rather than upon natural areas and native species. The Lacy Act of 1900 was the first US legislation to ban the importation of nuisance species of birds and mammals.<sup>12</sup> The Act made it unlawful to import starlings, fruit bats, and similar species found by the Secretary of Agriculture to be harmful to the interests of agriculture. In 1926, the Black Bass Act supplemented the Lacy Act to include fish.<sup>13</sup> A subsequent federal enactment of note was the Federal Noxious Weed Act of 1974.<sup>14</sup>

The earliest state legislation directed to harmful exotic species was likely to be species specific. For example, an 1885 statute made it an offense to allow Canada thistle to grow and mature upon land under a person's control.<sup>15</sup>

The State Entomologist was authorized in 1919 to seek prevention of the introduction and spread of any "pests" injurious to horticultural and agricultural plants, as well as those injurious to bees.<sup>16</sup> These pests were designated by rule, and their control could be implemented through a regional or county quarantine.

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<sup>5</sup>. Lindsey, *Natural Features of Indiana*, Proceedings of Indiana Academy of Sciences, 591 (1966).

<sup>6</sup>. Cottman, *Indiana Dunes State Park: A History and Description*, 34-40 (1930).

<sup>7</sup>. National Park Service, *Draft Indiana Dunes National Lakeshore: Lake Protection Plan* (June 1995).

<sup>8</sup>. 1901 Ind. Acts, Ch. 49, § 4.

<sup>9</sup>. 1935 Ind. Acts, Ch. 8.

<sup>10</sup>. 1967 Ind. Acts, Ch. 266.

<sup>11</sup>. U.S. Congress, Office of Technology Assessment, *Harmful Non-Indigenous Species in the United States* (1993).

<sup>12</sup>. See now 18 U.S.C. 42. See also Whalin, *The Control of Aquatic Nuisance Nonindigenous Species*, *The Environmental Lawyer*, 65-127 (Sept. 1988).

<sup>13</sup>. Formerly 16 U.S.C. 851-856 (repealed). In 1981, the Black Bass Act was merged into the Lacy Act. 16 U.S.C. 3371-3378.

<sup>14</sup>. 7 U.S.C. 2801-2814.

<sup>15</sup>. 1885 Ind. Acts, Ch. 24.

<sup>16</sup>. 1919 Ind. Acts, Ch. 60, §16.



In 1934, the Indiana Supreme Court affirmed the right of the DNR Division of Entomology to plow under a corn field infested with an exotic species (corn borer) despite the landowner's objections.<sup>17</sup>

The Division of Fish and Game in the Indiana Department of Conservation was in 1919 authorized to propagate and protect birds, fish, and other game animals. At the same time, however, the agency was given authority to "introduce such varieties of game and game birds, foreign to this state, as may be deemed for the best interest of the people of the state."<sup>18</sup> A licensing requirement was established in 1937, through the division of fish and game, for any person wishing to breed birds or mammals "for release" into the wild.<sup>19</sup>

Modern laws directed to controlling exotic species may take a more universal view as to the potential for adverse impacts, expressing concern for native species as well as commercial values. An example on the federal level is the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990.<sup>20</sup> An example on the state level is the wild animal importation permit, which can be granted by the DNR's Division of Fish and Wildlife only upon a showing the animal will "not damage a native wild animal, a domesticated species of animal, or a species of plant."<sup>21</sup>

## **Implementation of Management Techniques**

### **Filling, Dredging, and Alteration of Wetlands and Special Aquatic Sites**

Activities involving the filling and alteration of wetlands and special aquatic sites are regulated broadly under the federal Clean Water Act. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into waters of the United States.<sup>22</sup> Section 404 is typically administered in conjunction with Section 401. Section 401 requires certification from the state in which a discharge originates that the discharge will comply with water quality standards. Currently, in Indiana the ACOE administers Section 404 with an opportunity for comment by state and local agencies. Section 401 water quality certification is provided by IDEM, and the state agency couples Section 401 authority over "waters of the United States" with its state water authority over "waters of Indiana."<sup>23</sup>

IDEM is the state agency charged with reviewing and either granting, denying, or conditioning 401 water quality certifications under the Clean Water Act. In determining whether to issue a 401 water quality certification, IDEM reviews the proposed activity and determines whether the activity will meet state water quality standards. The certification must contain conditions necessary to ensure compliance with these standards. In Indiana, the 401 water quality certification program is implemented using the agency's general statutory authority for rule adoption and the resulting water quality rules. Most prominent among these rules (as applicable to the coastal area) are the water quality standards contained in 327 IAC 2-1.5, including the antidegradation standards.<sup>24</sup>

A 401 water quality certification is a form of state agency "permit." As such, the grant or denial of a permit is subject to administrative review by the Office of Environmental Adjudication. The certification process determines whether an activity will comply with Indiana's "effluent limitations and water quality

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<sup>17</sup> *Wallace v. Feehan*, 190 N.E. 438, 206 Ind. 522 (1934).

<sup>18</sup> 1919 Ind. Acts, Ch. 60, §19.

<sup>19</sup> 1937 Ind. Acts, Ch. 21, §19.

<sup>20</sup> 16 U.S.C. 4701-4751.

<sup>21</sup> IC 14-25-1 and 312 IAC 9-10-20(c).

<sup>22</sup> 33 USC 1344.

<sup>23</sup> IC 13-18-4-5.

<sup>24</sup> 327 IAC 2-1.5-4.

standards.” If a 401 water quality certification is to be issued, the certification must be conditioned so that no degradation to water quality will result to existing and potential beneficial uses of the State’s surface waters. Included in the scope of a 401 water quality certification is the authority of IDEM to require dredged material be disposed in an appropriate off-site location, to address storm-water runoff, and to assure that harm will not come to aquatic life in a waterway or adjacent terrestrial area. The recipient of a 401 water quality certification, who fails to adhere to the terms of the certification, is subject to a state enforcement action by IDEM.<sup>25</sup>

In determining whether to issue a certification, the State is required to review the proposed activity and determine whether the activity will meet certain federal and state requirements including state water quality standards. The certification must contain conditions necessary to ensure compliance with applicable laws. In Indiana, this program is currently being implemented using IDEM's general statutory authority and the water quality standards rule.<sup>26</sup>

All applications for Section 401 water quality certification are subject to public comment. IDEM will issue a public notice upon receipt of an application for certification and generally allows 21 days for comments. If the project requires an individual permit from the ACOE, then the ACOE will issue a joint public notice in lieu of IDEM’s public notice. Notice is generally given to adjacent landowners, various regulatory agencies and those who have requested notice.<sup>27</sup> Indiana provides an opportunity for review of the exercise of these authorities, as decisions on “licenses,” through the Office of Environmental Adjudication.<sup>28</sup>

On January 9<sup>th</sup>, 2001, the U.S. Supreme Court ruled against the U.S. Army Corps of Engineers (Corps) and its authority to regulate certain isolated water bodies in the case SWANCC v United States. This decision removes certain water bodies from the jurisdiction of the ACOE. Generally, ‘isolated water bodies or wetlands’ that are not adjacent to navigable waters of the United States are considered affected by the SWANCC decision. Historically, Indiana has protected the state’s waters, which include wetlands, by applying state water quality standards through our Section 401 Water Quality Certification program, in conjunction with the Section 404 U.S. Corps of Engineers permit program.

Although some of these waters may no longer be subject to federal jurisdiction, they are still waters of the state. IDEM will continue to protect all water bodies, including those affected by the SWANCC decision, through the state’s water quality standards. The Supreme Court decision did not question the states’ authority to enforce its own statutes and regulations, and in fact, reaffirmed the states’ primary authority to regulate its water resources and to control water pollution.

IDEM has also determined that projects for water bodies covered by the SWANCC decision must be reviewed in a manner consistent with the Section 401 Water Quality Certification program. Violations of surface water quality standards will be pursued as appropriate for enforcement. In addition, IDEM will initiate a process to modify the current 401 Water Quality Certification procedures rule to establish a state permit system for water bodies affected by the SWANCC decision. After review, IDEM believes the existing NPDES permit rules apply to projects affected by the SWANCC decision and represent the best mechanism by which impacts to wetlands can be legally regulated until the effective date of new rules authorizing a state wetland permit program.

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<sup>25</sup> Final Order Granting Caesars’ Motion for Summary Judgment, Objection to the Issuance of Section 401 Water Quality Certification ACOE ID: 199600554 RDI/Caesars Riverboat Casino, LLC, Cause No. 97-W-J-1824 (January 5, 1998).

<sup>26</sup> 327 IAC 2-1.

<sup>27</sup> This information and additional information regarding the Section 401 water quality certification process can be found at [http://www.state.in.us/idem/owm/planbr/401/401\\_overview.html](http://www.state.in.us/idem/owm/planbr/401/401_overview.html).

<sup>28</sup> Review is provided pursuant to Indiana’s Administrative Orders and Adjudication Act as set forth at IC 4-21.5.

IDEM is also developing amendments to rules to establish wetland water quality standards and new rules to establish procedures and criteria for review of projects requiring Section 401 water quality certification. Public comment is being sought on the rule amendments and new rules regarding activities regulated by the ACOE under Section 404 of the Clean Water Act and by the Federal Energy Regulatory Commission, such as licenses for hydroelectric facilities. Indiana is required by federal law to establish water quality standards for all waters of the State including wetlands. This rulemaking will amend rules in 327 IAC 2 to establish specific water quality standards for Indiana's wetlands.<sup>29</sup>

This rulemaking will also create a new article, 327 IAC 17, to implement wetland water quality standards and establish specific procedures and criteria to be used by IDEM's Office of Water Management when it reviews applications for Section 401 water quality certification. Specific topics covered by the rulemaking may include mitigation banking, mitigation requirements, antidegradation, and public notice procedures.

The ACOE issues general permits to cover certain categories of activities (with minor effects on the environment) that would otherwise require an individual permit under Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act. A nationwide permit (NWP) is a general permit issued by the ACOE. As of June 1, 2000, there are 44 NWPs, not all of which are exempt from the requirement for an individual 401 water quality certification (WQC) from IDEM. NWP 26 expired in June 2000. A regional general permit (RGP) issued February 11, 2000 will replace all NWPs in Indiana except the following:

- Aids to navigation (Section 10 only)
- Structure in artificial canals (Section 10 only)
- Maintenance (newly revised, Sections 10 and 404)
- Structures in fleeting and anchorage areas (Section 10 only)
- Mooring buoys (Section 10 only)
- Temporary recreational structures (Section 10 only)
- Utility line activities (newly revised Sections 10 and 404)
- State administered 404 programs (Section 10 only)
- Stream and wetland restoration activities (newly revised Sections 10 and 404)
- Modifications of existing marinas (Section 10 only)
- Maintenance dredging of existing basins (Section 10 only)

Of the above NWPs, only NWP 12 requires an individual 404 permit issued by the ACOE. One RGP exists for Indiana. It was issued February 11, 2000. It will replace all the NWPs except for those above. In general, the RGP can be used by the ACOE to authorize most projects that affect one acre or less of "waters of the United States", provided the project complies with the terms and general conditions of the RGP. IDEM has granted a 401 WQC for the RGP, but only if the project complies with IDEM 401 Special Conditions. In general, if the project will affect one-tenth of an acre of wetlands or less, impacts 300 feet or less of stream channel, and does not involve channel relocation, no individual 401 WQC is required. Certain exceptions do apply, such as protection for Salmonid and Outstanding State Resource Waters. Even if an activity meets all of the special conditions, notification still must be provided to IDEM.

A storm water discharge permit may be required before a construction activity such as clearing, grading, and excavation that results in the disturbance of five acres or more of total land area is conducted in a

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<sup>29</sup> Information on IDEM rule making regarding the Section 401 water quality certification program and wetland water quality standards can be accessed at [http://www.state.in.us/idem/owm/planbr/401/rule\\_and\\_procedures.html](http://www.state.in.us/idem/owm/planbr/401/rule_and_procedures.html).

wetland or other area. If the land disturbing activity results in the disturbance of less than five acres of total land area, but is part of a larger common plan of development or sale such as the development of a subdivision or industrial park, it is still subject to storm water permitting. Rule 5 allows the use of a general permit for these construction activities.<sup>30</sup> An Erosion and Sediment Control Plan must be prepared and reviewed by the local Soil and Water Conservation District (SWCD). Once the SWCD has approved the plan and necessary modifications have been made, a Notice of Intent letter is mailed to IDEM. A Notice of Sufficiency must be received from IDEM before construction can begin. If the receiving water for the project is classified as an outstanding state resource or exceptional use water, the general permit does not apply and an individual NPDES permit for storm water discharges must be obtained. An individual permit application must be submitted at least 180 days prior to initiation of land disturbing activities.<sup>31</sup>

In addition, many activities within wetlands and other special aquatic sites require permits from, or are otherwise regulated by the DNR. For example, a permit cannot be issued for an obstruction, deposit, or excavation within a floodway which will be “unreasonably detrimental to fish, wildlife, or botanical resources.”<sup>32</sup> A permit to place fill or remove material from a navigable waterway cannot be issued if the activity would “[c]ause significant harm to the environment.”<sup>33</sup> The State has full power and control of all public freshwater lakes in order to preserve their natural resources and natural scenic beauty.<sup>34</sup> An obstruction, other than a dam, cannot be placed on a waterway that prevents the movement of fish. A dam on a stream with a watershed of at least 50 square miles may be required to maintain a “sufficient head of water above the dam to support fish life” and to incorporate an adequate fish ladder.<sup>35</sup>

Wetland restoration measures are encouraged by the exemption of certain restoration activities from the Flood Control Act.<sup>36</sup> If wetland restoration is undertaken in a floodway, a general permit is available when conditions specified by rule are met. Written notification describing the proposed activity must be provided to the DNR at least 30 days before the activity is to begin. The DNR is to respond within 15 days of the receipt of the notice if there are any objections to the restoration measures as proposed. If the DNR raises no objection, the proposed activity is deemed qualified for the exemption.

### Mitigation

In 1990, the DNR, the Indiana Department of Transportation (INDOT), and the FWS determined that standardization among these agencies regarding wetland mitigation would be beneficial. A memorandum was developed among these three agencies and remains in effect. Mitigation ratios for projects of the INDOT range from 1:1 to 4:1 or higher.<sup>37</sup> All ratios are in land measurements. The ratio is defined as the amount of area to be replaced or created (the first number): the amount of area being disturbed (the second number).

A wetlands and habitat mitigation nonrule policy document addresses persons not covered by the memorandum of understanding. This nonrule policy includes a general framework for the assessment and determination of wetland or habitat compensatory mitigation where a construction project is likely to

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<sup>30</sup> 327 IAC 15-5.

<sup>31</sup> This information and additional information on Rule 5 can be found at <http://www.state.in.us/idem/owm/facmang/storm/stormindex.html>.

<sup>32</sup> IC 14-28-1-22.

<sup>33</sup> IC 14-29-1-8.

<sup>34</sup> IC 14-26-2-5. Lake Michigan is statutorily exempted at IC 14-26-2-3 from the lakes regulated under this section.

<sup>35</sup> IC 14-22-9-9.

<sup>36</sup> 310 IAC 6-1-15.

<sup>37</sup> Information regarding the agency memorandum of understanding and the wetlands and habitat nonrule policy document can be found at <http://www.state.in.us/nrc/policy/index.html>.

reduce or degrade an existing wetland or habitat. The DNR uses the nonrule policy during the review of permit applications and when commenting on federal licenses such as Section 404.

Compensatory mitigation for disturbances to natural resources is the final alternative which should be considered when a project is planned. The sequence to follow during project planning is:

- (1) avoidance of disturbance;
- (2) minimization of disturbance; and,
- (3) where these two alternatives do not dispose of the issue, compensatory mitigation for the loss of natural resources.

The following chart has been adopted by the NRC for use in measuring wetlands and habitat mitigation:<sup>38</sup>

Department of Natural Resources Wetlands and Habitat Mitigation Guidelines

Habitat Category	Standard Minimum
1. Palustrine Emergent Wetland	2:1
2. Non-wetland Forest (More than one acre of disturbance)	2:1
3. Palustrine Scrub- Shrub Wetland	3:1
4. Palustrine Forested Wetland	4:1

The standard minimum ratio assumes that the functions and values of the original habitat will be replaced in the same watershed as a result of compensatory mitigation. There are several criteria pertaining to the disturbed habitat or the replacement habitat which influence the environmental value of the habitat area. When one or more of these criteria apply to the existing or replacement habitat, there will be an increase (or possibly a decrease) to the standard minimum ratio. Each of these criteria can increase or decrease the standard minimum by a factor from 0 to 1.0 in increments of 0.25. An activity that requires the adjustment of the standard mitigation ratio by a total increase greater than 2.0 will, most likely, be recommended for denial. These factors will be applied on a case-by-case basis. The compensatory mitigation ratio requirement will be adjusted from the standard minimum where the following criteria apply to the existing or replacement habitat:

Proximity of the replacement habitat to the disturbed habitat. The standard minimum ratio may be increased if replacement does not occur on the same stream or within a 2.5 mile diameter of the disturbed site. This factor will be revised to require replacement within the same 14-digit Hydrologic Unit Code Area as the 14-digit Hydrologic Unit Code Area Maps are developed and become available. Since 14-digit hydrologic units are between two and three miles in diameter, these maps will provide a basis for wetland replacement in the same watershed or within 2.5 miles of the disturbed site.

Cumulative effect of the activity. The standard minimum ratio may be increased when the impact on the disturbed area results in an incremental impact when added to other past, present, and reasonably foreseeable future disturbance to the area.

Location of the disturbed habitat including such considerations as riparian corridor, community structure and composition, species diversity, and quality degradation. The standard minimum ratio may be increased when it is determined that one or more of these considerations apply and are a major influence in the functions and benefits of the habitat. The standard minimum ratio may be decreased in instances

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<sup>38</sup> *Wetlands and Habitat Mitigation*, Information Bulletin 17, Natural Resources Commission, 20 Ind. Reg. 3546 (September 1, 1997).

where the quality of the replacement habitat, in terms of functions and benefits, exceeds the quality of the disturbed habitat because either:

- degradation has occurred to the existing habitat; or,
- improved interspersions of habitats, community structure, or species composition is likely to occur as a result of the replacement.

These guidelines do not specifically address all possible habitats, such as lacustrine and riverine wetlands. Disturbance of these habitats is discouraged but may be unavoidable for certain projects. The DNR and IDEM offer numerous techniques to minimize negative impacts to these resources and to enhance their functions for erosion control, sedimentation reduction, and fish and wildlife. These techniques may also be required as a compensatory mitigation requirement for disturbance of these habitats.

Urban forests are not specifically addressed in the guidelines. If the disturbed area has more than one acre of tree removal, mitigation will be required as specified in the standard ratios. When the disturbed area has less than one acre of tree removal, five trees shall be planted for each tree that is removed having a diameter of at least ten inches.

Denial of projects in some areas is likely, or mitigation ratios exceeding these guidelines may be required, if disturbance is permitted. Examples include:

- disturbance to areas owned or managed by the DNR;
- exceptional and extremely rare habitats (such as bogs) that are extremely difficult or impossible to reconstruct; and,
- critical habitat for endangered and threatened species.

The Louisville District of the ACOE, the Detroit District of the ACOE, the Natural Resources Conservation Service (NRCS), the EPA, the FWS, and DNR, entered the Interagency Coordination Agreement on Wetland Mitigation Banking within the State of Indiana to support the establishment of wetland mitigation banks in Indiana.<sup>39</sup> The agreement also provides that mitigation banks can serve to mitigate for unavoidable wetland impacts due to the excavating, filling, flooding, and draining of "waters of the United States" as regulated under Section 404 of the Clean Water Act and for the Wetland Conservation provisions previously known as "Swampbuster" of the Food Security Act of 1985, as amended.<sup>40</sup>

The wetland mitigation banking agreement includes the criteria for establishing, owning, and operating wetland mitigation banks. It further sets the criteria for authorizing applicants to withdraw credits from a mitigation bank to offset unavoidable wetland impacts that would result from an applicant's proposed activity. It is intended that this agreement serve as the basis for establishing, certifying, and the withdrawing of credits from wetland mitigation banks. The appropriate ACOE district (Louisville or Detroit) acts as the lead agency in the review and approval of wetland mitigation bank projects within their geographic jurisdiction for the purpose of Section 404 of the Clean Water Act. The NRCS is the lead agency for the establishment of mitigation banks for the purpose of complying with the wetland conservation provisions of the Food Security Act of 1985.

### Conservation

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<sup>39</sup> The full text of the agreement can be accessed at <http://www.lrl.usace.army.mil/orf/info/ICA1097.html>.

<sup>40</sup> 16 USC 3821.

Wetland conservation guidelines<sup>41</sup> have been established by the DNR Division of Soil Conservation to assist in proactively protecting and managing Indiana's wetland resources. The guidelines provide several directives to the DNR for protecting and maintaining wetlands in Indiana:

- increase the quality, availability, and use of information concerning the historical, economic, and ecological values of wetland resources for present and future generations;
- use scientific criteria to assess key functions and values of existing wetlands prior to disturbance and to monitor results of projects following creation or alteration of wetlands;
- identify the remaining highest quality wetlands in order to prioritize them for protection or acquisition in a natural or semi-natural state and to employ human intervention when necessary to maintain ecological structures and processes;
- restore and manage intermediate or poor quality wetlands to accomplish specific purposes, including ecological productivity, flood control, water quality improvements, recreational opportunities, and aesthetic values, through biologically and scientifically sound manipulation;
- create and maintain new wetlands to provide one or more benefits of natural wetlands, alleviate some of the lost wetland acreage in the State, and strengthen the use and development of bio-engineered systems for purposes such as wastewater treatment, floodwater retention, agricultural productivity, and landscape management; and
- support the development of comprehensive wetland conservation plans that facilitate cooperative efforts between natural resource agencies and organizations involved in these issues.<sup>42</sup>

A comprehensive wetland conservation plan was developed under a grant awarded to DNR in 1994 by the EPA.<sup>43</sup> More than 900 participants from across the State assisted in preparing the plan to provide guidance for wetlands conservation efforts. The plan is also designed to serve as a framework for discussing and problem-solving wetland conservation issues. The plan sets forth actions to be accomplished, reviews the status of wetlands in Indiana, their functions and benefits, and identifies various regulatory and scientific definitions applied to wetlands.

Another objective of the plan is to develop a rating system for determining the quality of a wetland. A rating system would standardize "best professional judgement" currently being used to determine the quality of a wetland and consequent response within the permitting system. The DNR received a second grant in 1997 to begin implementation of the Wetlands Conservation Plan.<sup>44</sup>

In addition, the DNR participates in the Southern Lake Michigan Coastal Wetlands Project. The Coastal Wetlands Project is funded through a grant under the North American Wetlands Conservation Act. Since 1995, a partnership of government agencies, conservation organizations, and industry work to acquire, protect, and restore natural areas in the Southern Lake Michigan watershed to provide habitat for migrating waterfowl, raptors, shorebirds, and neotropical birds. Phase II of the project calls for efforts to restore the hydrology of the Great Marsh located just south of the lakeshore dunes in Porter County. The project also plans for the acquisition of key wetlands areas for conservation and the control of exotic plant species such as *Phragmites* which threaten wetlands.

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<sup>41</sup> *DNR Wetland Conservation Policy*, Information Bulletin #2, 19 Ind. Reg. 551 (December 1, 1995).

<sup>42</sup> This information was taken from the full text of the Wetland Conservation Guidelines found at <http://www.state.in.us/dnr/soilcons/wetland.htm>.

<sup>43</sup> The Indiana Wetland's Conservation Plan can be accessed at <http://www.state.in.us/dnr/fishwild/inwetcon/wetconpl.htm>.

<sup>44</sup> Personal communication with Tim Kroeker of the DNR, Division of Water and Gwen White of the DNR, Division of Soil Conservation (March 1998).

## **Natural Areas, Nature Preserves, Wildlife Habitat Areas, and Areas of Exceptional Ecological Significance**

Critical portions of the natural areas along the Indiana coastline of Lake Michigan are preserved within public parks. Indiana Dunes State Park was established in 1925 based upon state enabling legislation enacted two years earlier. One of the first inclusions was “Mt. Tom (one of the great dunes),” included in a 110 acre tract purchased from John O. Bowers. Although condemnation was considered for development of the park, “the entire amount authorized by the law was acquired by negotiation at reasonable prices. The total cost of the Dunes Park lands was approximately \$1,000,000.” By 1930, the park included 3½ square miles of the “most picturesque part” of Indiana’s dune region.<sup>45</sup>

Subject to the approval of the Governor, the DNR has general authority to purchase land for the development of a state park or a similar scenic area.<sup>46</sup> Additionally, the DNR may develop a “small state park” (not to contain more than 500 acres) for recreational or cultural activities by the public. A small state park must contain or be adjacent to surface water.<sup>47</sup>

Indiana Dunes National Lakeshore was established by congressional action in 1966. Among its purposes was preservation for scenic and scientific purposes. The enactment provided that no development would be undertaken which would be incompatible with the preservation of “the unique flora and fauna” found on the site.<sup>48</sup>

The Indiana General Assembly has stated, “As part of the continuing growth of the population and the development of the economy of Indiana, it is necessary and desirable that areas of unusual natural significance be set aside and preserved for the benefit of present and future generations before the areas have been destroyed.” Nature preserves may be established to maintain “habitats for plant and animal species and biotic communities whose diversity enriches the meaning and enjoyment of human life.” These sites are intended as “reminders of the vital dependence of the health of the human community upon the health of the natural communities of which the human community is an inseparable part.”<sup>49</sup> A nature preserve may be owned by the State, another unit of government having jurisdiction over the area, or a private owner.<sup>50</sup> A dedication as a nature preserve is only effective upon the development of “articles of dedication,” which provide for the preservation and management of a site, their acceptance by the DNR, and upon recording the articles of dedication in the county in which the site is located.<sup>51</sup> The DNR Division of Nature Preserves coordinates the establishment of nature preserves and prepares management plans to protect the resources within the preserve. A regional ecologist is located at the Jasper-Pulaski Fish and Wildlife Area to assist the Division with its duties in the coastal area.

Indiana has adopted the “Uniform Conservation Easement Act” authorizing the voluntary transfer of a “conservation easement” for a variety of purposes.<sup>52</sup> A conservation easement may be held by a governmental body or by a qualified charitable institution. A liberal approach is applied to the establishment of conservation easements, and the Act provides flexibility in identifying in the easement who may enforce the terms.

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<sup>45</sup> Cottman, Indiana Dunes State Park: A History and Description (1930).

<sup>46</sup> IC 14-19-1-1(4).

<sup>47</sup> IC 14-19-2.

<sup>48</sup> Pub. Law 89-761.

<sup>49</sup> IC 14-31-1-1(a).

<sup>50</sup> IC 14-31-1-11(a).

<sup>51</sup> IC 14-31-1-11(b) and IC 14-31-1-12.

<sup>52</sup> IC 32-5-2.6-1.



Rivers and streams can be designated as a natural river, scenic river, or a recreational river by Indiana statute.<sup>53</sup> The designation provides for the establishment of a local commission by rule to protect and improve natural and scenic qualities of the specified river in cooperation with the DNR. Where a local river commission exists, a person without a permit from the river commission may not affect the natural or scenic qualities of the river. The Big Blue River, Cedar Creek, and Wildcat Creek have been designated as part of Indiana's system. A natural, scenic, or recreational river has not been designated under this statute in the coastal area.

The NRC adopted a nonrule policy document, Outstanding Rivers List for Indiana,<sup>54</sup> which designates high quality rivers in Indiana. A river is included in the list if it qualifies under one or more of 22 categories. Deep River in Lake County is listed from one mile south of U.S. 30 to its mouth on the Little Calumet River.

For all "surface waters of the state" within the coastal area, the Water Pollution Control Board has specified that existing in-stream water uses and the level of water quality needed to protect existing uses must be maintained and protected. If a designated use of a waterway is impaired, there must be no lowering of the water quality with respect to any pollutant that causes the impairment.<sup>55</sup> A "surface water of the state" refers to a surface accumulation of water, or a part of the accumulation of water, that is wholly or partially within Indiana. The term does not include a private pond or reservoir built for pollution control or reduction of water cooling unless the discharge threatens to cause water pollution.<sup>56</sup>

The Water Pollution Control Board has defined "high quality waters" to be those where the waters exceed levels, on a parameter by parameter basis, needed to support the propagation of fish, shellfish, and wildlife and recreation in and on the water. The term includes any waterway for which a specified pollutant has not been detected in the water column and non-transient aquatic organisms have not been detected at levels that would indicate a water quality criterion is not being met.<sup>57</sup>

"Outstanding national resource waters" refers to those designated: (1) for protection through official action (such as federal or state law, presidential action, international treaty, or interstate compact); (2) because they have exceptional recreational significance; (3) because they have exceptional ecological significance; (4) because they have other special environmental, recreational, or ecological attributes; or, (5) because they are needed to protect other designated waters.<sup>58</sup> A high quality water designated as an outstanding national resource water (such as waters of national and state parks and wildlife refuges and waters of exceptional recreational or ecological significance) must be maintained and protected in its present high quality without degradation.<sup>59</sup>

"Outstanding state resource waters" mean those designated as such by Indiana.<sup>60</sup> The Indiana portion of Lake Michigan and all waters incorporated in the Indiana Dunes National Lakeshore are listed as outstanding state resource waters.<sup>61</sup>

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<sup>53</sup> IC 14-29-6.

<sup>54</sup> *Outstanding Rivers List for Indiana*, Information Bulletin 4, Natural Resources Commission, 16 Ind. Reg. 1677 (March 1, 1993). The list of rivers and the qualification categories can be viewed at <http://www.state.in.us/nrc/policy/outstand.html>.

<sup>55</sup> 327 IAC 2-1.5-4(a).

<sup>56</sup> 327 IAC 2.1-5-2(79).

<sup>57</sup> 327 IAC 2.1-5-2(45).

<sup>58</sup> 327 IAC 2.1-5-2(63).

<sup>59</sup> 327 IAC 2-1.5-4(d).

<sup>60</sup> 327 IAC 2-1.5-2(64).

<sup>61</sup> 327 IAC 2-1.5-19(b).

State-designated salmonid waters in the coastal area are: Trail Creek and its tributaries to Lake Michigan; the East Branch of the Little Calumet River and its tributaries downstream to Lake Michigan via Portage Burns Waterway; Salt Creek above its confluence with the Little Calumet River; Kintzele Ditch (Black Ditch) from Beverly Drive downstream to Lake Michigan; the Galena River and its tributaries in LaPorte County; and the waters designated by the DNR for put-and-take trout fishing.<sup>62</sup>

Waters may also be designated for “limited use.” These are waters that have naturally poor physical characteristics (that is, suitable habitat to support a well-balanced fish community is severely limited or absent), naturally poor chemical quality, irreversible man-induced conditions that came into existence before 1983, and no unique or exceptional features.<sup>63</sup> No limited use waters have been designated within the coastal area.<sup>64</sup>

The Indiana Heritage Trust Program was established by the Indiana General Assembly in 1992<sup>65</sup> to “acquire real property or interests in real property” for a variety of purposes relating to natural and cultural resources. Among these purposes are to protect “outstanding features and habitats” and to restore “native biological diversity.” The program is directed to “acquire real property for new and existing state parks, state forests, nature preserves, fish and wildlife areas, wetlands, trails, and river corridors. The program shall ensure that Indiana’s rich natural heritage is preserved or enhanced for succeeding generations.”<sup>66</sup> The program is funded primarily by the sale of “environmental license plates”<sup>67</sup> with additional funding from donations and state legislative appropriations.<sup>68</sup>

The Natural Resources Foundation is authorized to acquire real and personal property, other than through the power of eminent domain, to support the activities of the DNR or a unit of local government. The foundation must have DNR approval to donate property to the State.<sup>69</sup>

A parcel of land in private ownership may be classified as a “wildlife habitat” if the site “contains a good stand of vegetation that is capable of supporting wildlife species” and is “conducive to wildlife management.” The landowner is required to enter an agreement with the DNR to establish “standards of wildlife management for the parcel of land as that concept is understood by competent wildlife biologists.” The site must contain at least 15 acres, of which no more than ten acres can be woodland. The parcel cannot contain a dwelling or other usable building. Classification as wildlife habitat is a voluntary action by the landowner and limits general property taxation to \$1 per acre.<sup>70</sup>

Similar provisions apply to the classification of a site as “riparian land.” In order to qualify, the site must be “a stream bed or vegetated land adjacent to a stream bed” within 100 feet from the “line of nonaquatic vegetation” and must be “conducive to riparian management.” General property taxation is limited to \$1 per acre.<sup>71</sup>

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<sup>62</sup> 327 IAC 2-1.5-5(a)(3).

<sup>63</sup> 327 IAC 2-1.5-18(b).

<sup>64</sup> Designations of limited use waters elsewhere in the Great Lakes watershed of Indiana are codified at 327 IAC 2-1.5-19(a).

<sup>65</sup> Ind. P.L. 69-1992.

<sup>66</sup> IC 14-12-2-1.

<sup>67</sup> IC 9-18-29.

<sup>68</sup> IC 14-12-2-25.

<sup>69</sup> The Natural Resources Foundation is overseen by a 12-member board. Charges include acquiring property and administering the Indiana natural resources fund in coordination with the expenditures of the Indiana Heritage Trust Program. See IC 14-12-1.

<sup>70</sup> IC 6-1.1-6.5-2(a) and 8. This program is administered through DNR Division of Fish and Wildlife.

<sup>71</sup> IC 6-1.1-6.5-2(b). This program is also administered through DNR Division of Fish and Wildlife.

Another enactment allows land to be set aside and managed as a classified forest in return for technical assistance and a general property tax assessment of \$1 per acre.<sup>72</sup> The statute references both areas which may be identified as native forestland and those which are forest tree plantations,<sup>73</sup> although the two classifications are not differentiated either by statute or by rule.

Minimum standards of good timber management apply to classified forests approved after June 30, 1990. A management plan must be approved for each parcel that supports both timber production and watershed protection. The landowner is responsible for maintaining the land according to the management plan, for preventing excessive erosion and controlling the deposition of sediment off-site, and for maintaining a healthy forest environment.<sup>74</sup>

To give recognition to natural areas, DNR is authorized by statute to establish a "registry of areas of unusual significance." Inclusion of a site within the registry does not, however, qualify the site as a "nature preserve" unless the site is issued articles of dedication.<sup>75</sup> A list of sites eligible for registry is maintained by the Division of Nature Preserves. Landowners are contacted and notified of their site's significance, asked to continue to voluntarily protect it, and to notify the Division if they perceive a threat or a change in ownership. Registry owners receive the "Natural Areas Newsletter" as a means of maintaining communication with the program.

Indiana's Forest Legacy Program, established through the federal Forest Legacy Program created by the 1990 Farm Bill,<sup>76</sup> will identify environmentally important forests and protect them by purchasing the development rights from willing sellers. The owners retain all other rights, including the right to harvest timber and sell or bequest the remaining rights. Once purchased, the development rights are held by the State in perpetuity. Federal funding can be used for up to 75% of the purchase price for the development rights.

A portion of LaPorte and Porter Counties has been identified as one of six Forest Legacy Areas in Indiana. The remaining forests of this area represent the diminishing northwest morainal forest type, and provide wildlife habitat, recreation, aesthetic values, and community greenspace. The continuing expansion of the suburban residential area, industrial areas, and utility corridors were noted in including this area in the Forest Legacy Program.<sup>77</sup>

### **Hunting, Fishing, Trapping, and Related Activities**

Wild animals, except those legally owned or being held in captivity pursuant to a license, are the property of the people of Indiana. The DNR is the agency designated to "protect and properly manage the fish and wildlife resources of Indiana."<sup>78</sup> A person may not take, chase, or possess a wild animal, except as authorized by statute or by a rule adopted by the NRC.<sup>79</sup>

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<sup>72</sup> IC 6-1.1-6-14 and 19. This program is administered through the DNR Division of Forestry.

<sup>73</sup> IC 6-1.1-6-2 and 3.

<sup>74</sup> 312 IAC 15.

<sup>75</sup> IC 14-31-1-8.

<sup>76</sup> 16 USC 2103c.

<sup>77</sup> Information regarding the Forest Legacy Program was obtained from the DNR Division of Forestry web site at <http://www.state.in.us/dnr/forestry/legacy/legacy.htm>.

<sup>78</sup> IC 14-22-1-1. *Ridenour v. Furness* (Ind. App. 1987), 504 N.E.2d 336.

<sup>79</sup> IC 14-22-6-1.

As a practical matter, standards for lawful methods to hunt, fish, trap, or otherwise take wild animals are typically set forth by rule,<sup>80</sup> since most of the statutes pertaining to wild animals are restrictions or prohibitions on taking. For example, a “trout-salmon stamp” is required by statute<sup>81</sup> to take trout and salmon, but a rule<sup>82</sup> sets the conditions upon which trout and salmon may be lawfully taken.

### **Activities Affecting Fish and Wildlife Habitat Areas**

Among the charges of the DNR are responsibilities to investigate, compile, and disseminate information and make recommendations concerning the “[c]ulture and preservation of forests, fish, and game.”<sup>83</sup> To implement these charges, the DNR may “[c]ooperate with the appropriate departments of the federal government in conducting topographical and other surveys, experiments, or work of joint interest to the state and the federal government.”<sup>84</sup> The DNR may also cooperate with a public institution, a private institution, a society, an individual, or an association to make scientific investigations, compile reports, or otherwise act to carry out these charges.<sup>85</sup>

The Division of Fish and Wildlife administers the Fish and Wildlife Fund which contains funds generated by the sale of hunting, fishing, and trapping licenses as well as two federal aid programs. In addition, fines collected for violations of fish and wildlife laws are placed in a fund administered by the Division of Law Enforcement. These funds can be used for land acquisition and other activities to protect and propagate game, fish, and birds in Indiana.<sup>86</sup> The NRC may use the power of eminent domain as “necessary or proper” to acquire these lands.<sup>87</sup> DNR is also authorized to establish the programs, including the acquisition of land or aquatic habitat that are considered necessary for management of nongame species.<sup>88</sup>

Indiana has by statute consented to the acquisition of real property by the United States for use as fish hatcheries, wildlife preserves, or forest preserves. The DNR may in turn accept any real property acquired by the United States in this manner or may enter into an agreement with the United States for the administration of the property. “The state retains the exclusive right to regulate the taking, killing, or hunting of wild birds (except migratory birds) or wild animals on real property acquired by the United States” under this authority.<sup>89</sup>

One element of the Indiana Heritage Trust Program is to fund the purchase of property for fish and wildlife management purposes through its Fish and Wildlife Account.”<sup>90</sup> In addition to license plate sales and other sources of revenue referenced previously as being allocated generally to the program, proceeds from a voluntary fish and wildlife land acquisition fund are allocated specifically to the Fish and Wildlife Account.<sup>91</sup>

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<sup>80</sup> Rules relating to fish and wildlife are codified at 312 IAC 9.

<sup>81</sup> IC 14-22-11-8.

<sup>82</sup> 312 IAC 9-7-13.

<sup>83</sup> IC 14-11-1-1(1)(D).

<sup>84</sup> IC 14-11-1-1(2).

<sup>85</sup> IC 14-11-1-2.

<sup>86</sup> IC 14-22-3.

<sup>87</sup> IC 14-17-3-1.

<sup>88</sup> IC 14-22-34-14(a).

<sup>89</sup> IC 14-17-4.

<sup>90</sup> IC 14-26-2-26(4).

<sup>91</sup> IC 14-12-2-35.

## **Activities Affecting Fish and Wildlife**

All wild animals, except those that are legally held in captivity or exempted by statute, are the property of the people of Indiana.<sup>92</sup> A person may not take, chase, or possess a wild animal except as provided by statute or authorized by a rule adopted by the NRC.<sup>93</sup>

The DNR is charged with providing for the protection, reproduction, care, management, survival, and regulation of wild animals regardless of whether the wild animals are present on public or private lands. The agency is responsible for organizing and pursuing a program of research and management of wild animals "that will serve the best interests of the resources and the people of Indiana."<sup>94</sup> The DNR may enter upon public or private property to manage and protect a wild animal or to kill or remove a wild animal that is "considered a nuisance or detrimental to overall populations."<sup>95</sup>

The DNR Division of Fish and Wildlife primarily administers the legislative charges concerning fish and wildlife resources. To carry out their duties, the Division prepares and periodically updates strategic plans that outline specific goals, objectives, problems, and strategies. Wildlife biologists, fisheries biologists, and environmental biologists are located regionally throughout the state to work directly with the resources and Indiana residents. The coastal area is serviced by three wildlife biologists and one fisheries biologist, two Lake Michigan fisheries biologists at the DNR Lake Michigan Regional Office in Michigan City, and an environmental biologist in Peru.

Wild animals in their natural state are under the charge and control of Indiana in its sovereign capacity and are entrusted to the DNR.<sup>96</sup> The agency may issue a permit to a person, including a municipality, to kill white-tailed deer or other wild animals where over-population of the species is damaging property.<sup>97</sup> This permit is not subject to ordinary limitations on bag limits and seasons but cannot violate specific statutory prohibitions such as those pertaining to spotlighting and the use of firearms silencers. The use of professional "sharpshooters" to kill the deer was also affirmed.<sup>98</sup>

The Director of DNR is required to adopt an emergency rule authorizing a "controlled hunt" where a species of wild animal is causing "obvious and measurable damage to the ecological balance within the state park."<sup>99</sup> Over objections by citizen groups, approval by the Director to conduct a controlled hunt to reduce deer populations in a southern Indiana state park was affirmed in 1993.<sup>100</sup> In 1998, the adoption of an emergency rule to authorize a controlled hunt at Indiana Dunes State Park was determined not to be subject to administrative review, and the hunt was affirmed.<sup>101</sup>

The DNR may designate waters other than private ponds to improve and propagate wild animal populations. Boundary signs delineate these areas. "A person may not take, catch, kill, or pursue for the

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<sup>92</sup> IC 14-22-1-1(a).

<sup>93</sup> IC 14-22-6-1. These rules are codified at 312 IAC 9.

<sup>94</sup> IC 14-22-2-3.

<sup>95</sup> IC 14-22-2-5.

<sup>96</sup> *Ridenour v. Furness* (Ind.App. 1987) 504 N.E.2d 336.

<sup>97</sup> IC 14-22-28.

<sup>98</sup> *Lesch v. DNR and Town of Dune Acres*, 8 Caddnar 28 (1998); affirmed by Porter Superior Court 2 at 64DO2-9801-CP-130; appeal dismissed by Indiana Court of Appeals at 64AO3-9802-CV-73 (1998).

<sup>99</sup> IC 14-22-6-13.

<sup>100</sup> *Brown County Business Community for Responsible Wildlife Management v. DNR*, Brown Circuit Court, 07CO1-9311-CP-0326, with appeal dismissed in "Cheeta, et al. v. In. Dept. of Natural Resources, et al", 49AO4-9312-CV-00445 (1998).]

<sup>101</sup> *Cutler v. DNR*, 8 Caddnar 126 (1998); affirmed by Porter Superior Court 2 at 64AO4-9811-CV-566; appeal dismissed by Indiana Supreme Court (1998). The cases do not address the question of whether the underlying fact determination by the Director (that obvious and measurable damage has occurred) is subject to administrative review.

purpose of taking, catching, or killing a wild animal from a designated area during the time the area is designated.”<sup>102</sup>

A person who wishes to chemically treat aquatic vegetation in public waters must obtain a permit from the DNR’s Division of Fish and Wildlife. An adjacent landowner is exempted from permitting for treatments in the immediate vicinity of a boat landing or bathing beach, so long as the area treated is the lesser of ½ acre or ½ of the existing vegetation.<sup>103</sup> A permit application must be completed on a DNR form. Five days before the chemical application, the permit holder must post clearly visible signs at the treatment area, indicating the substance to be applied and what precautions should be taken.<sup>104</sup> Anyone who chemically treats aquatic vegetation, whether pursuant to a permit or the exemption, is not relieved from compliance with water pollution control laws or from potential civil liability.<sup>105</sup>

Legislative mandates may require particular types of fish and wildlife management. Of special note to the coastal area is that the DNR is directed to “regulate commercial fishing in Lake Michigan to protect the resource of fish for commercial and sport fishing.”<sup>106</sup> Rules are established to control the types of nets that may be used and the quantity of fish which may be taken. Other restrictions may be imposed by the NRC considered “necessary to protect the fishing resource in Lake Michigan.”<sup>107</sup> Gill nets are prohibited.<sup>108</sup>

The 1997 DNR Division of Fish and Wildlife strategic plan for the fishery resources of Lake Michigan identifies three direct influences which have changed the ecology of the lake: (1) commercial over-fishing; (2) the introduction of sea lampreys; and, (3) the introduction of alewives. "In addition to direct influences on the fish populations, indirect impacts have been documented due to poor land-use practices, dam construction and water pollution."

The goal of the 1997 Lake Michigan Fisheries Strategic Plan is to provide balanced fish communities which provide an optimum contribution of fish, fish opportunities, and associated benefits. The plan outlines objectives to achieve the goal.

- Increase angler days from 126,500 to 138,00 per year (based on state creel survey data) and increase average angler satisfaction rate from 50% to 60% by 2002.
- Increase the number of angling days for trout and salmon from 56,000 to 62,000 per year on Lake Michigan tributaries with a satisfaction rate of 50% by the year 2002.
- Increase the number of angling days for trout and salmon from 53,000 to 56,000 per year on Lake Michigan with a satisfaction rate of 50% by the year 2002.
- Reestablish a self-sustaining yellow perch population comparable to 1981-1983 levels (1,250 age-1 and older yellow perch per hour) by the year 2004.
- Increase the number of angling days for smallmouth bass and other fishes from 2,500 to 5,000 per year on Lake Michigan with a satisfaction rate of 50% by the year 2002.
- Maintain annually the species diversity (abundance of native species present) of aquatic animals associated with Lake Michigan.

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<sup>102</sup> IC 14-22-10-8.

<sup>103</sup> IC 14-22-9-10.

<sup>104</sup> 312 IAC 9-10-3.

<sup>105</sup> IC 14-22-9-10(d).

<sup>106</sup> IC 14-22-14-20.

<sup>107</sup> IC 14-22-14-21. Rules are set forth at 312 IAC 9-8.

<sup>108</sup> IC 14-22-14-22.

For each objective, strategies are recommended to overcome an identified problem in meeting the objective.<sup>109</sup>

The Conservation Officers Fish and Wildlife Fund was established “exclusively for special law enforcement investigations of fish and wildlife violations.”<sup>110</sup> The “Turn In a Poacher” Program (or “TIP”) was established to encourage citizen participation in deterring unlawful activities relative to fish, game, and nongame wildlife. To implement the TIP Program, the DNR is required to provide toll free telephone service, conduct a publicity campaign for the program, investigate violations initiated through citizen participation, and approve and coordinate reward payments.<sup>111</sup>

The Director of the DNR may recover damages from a person who discharges, sprays, or releases waste materials, chemicals, or other substances so that wildlife is killed as a result. If a settlement between the DNR and the person charged can not be reached, the Attorney General can bring a civil action to recover the damages in court. The proceeds recovered are to be used to replace the damaged wildlife population or habitat. If replacement of the population or habitat is not practical, the proceeds are deposited in the fish and wildlife fund.<sup>112</sup>

Pursuant to the CERCLA as amended,<sup>113</sup> the Oil Pollution Act (OPA),<sup>114</sup> and the Clean Water Act (CWA) as amended,<sup>115</sup> federal and state officials act on behalf of the public as trustees for natural resources. The Contaminants Program within the DNR Division of Fish and Wildlife works with IDEM, FWS, and the National Park Service to conduct natural resource damage assessments and assist with restoration processes. Additional information regarding natural resource damage assessments is included in the section titled Pollution Prevention, Recycling, Reuse, and Waste Management.

Completion of a hunter education course is required before a person born after December 31, 1986 may obtain a hunting license.<sup>116</sup> The requirement is implemented by rule.<sup>117</sup>

### **Activities Affecting Rare and Endangered Animal and Plant Species**

The DNR is responsible for the management of endangered species of wild mammals, birds, reptiles, amphibians, fish, mollusks, and crustaceans. Wildlife is an “endangered species” if the prospects of survival or recruitment in Indiana of a species or subspecies is in jeopardy or is “likely within the foreseeable future to become so.” Based upon investigations of nongame species and “scientific and commercial data,” species are identified for listing by rule.<sup>118</sup> Generally, a person is prohibited from taking, possessing, transporting, exporting, processing, selling, or shipping a species listed as endangered in Indiana or listed by the United States as endangered under 50 CFR 17.11.<sup>119</sup> The Nongame and

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<sup>109</sup> Indiana Department of Natural Resource, Lake Michigan Fisheries Strategic Plan (1997).

<sup>110</sup> IC 14-9-8-21.

<sup>111</sup> IC 14-9-8-23.

<sup>112</sup> IC 14-22-10-6.

<sup>113</sup> 42 USC 9601, *et seq.*

<sup>114</sup> 33 USC 2701, *et seq.*

<sup>115</sup> 33 USC 1251, *et seq.*

<sup>116</sup> IC 14-22-11-5.

<sup>117</sup> 312 IAC 9-12.

<sup>118</sup> State species that are threatened or endangered are listed as follows: mammals at 312 IAC 9-3-19; birds at 312 IAC 9-4-14; reptiles and amphibians at 9-5-4; fish at 312 IAC 9-6-9; and invertebrates at 312 IAC 9-9-4.

<sup>119</sup> IC 14-22-34.

Endangered Wildlife Program in the DNR Division of Fish and Wildlife maintains the State listing of endangered species and manages the nongame species to ensure their reproductive success.<sup>120</sup>

Indiana state law does not afford the same protections to rare and endangered insects or plants as are afforded to wildlife,<sup>121</sup> but the NRC has established a nonrule policy document which includes both and which is entitled A Roster of Indiana Animals and Plants which are Extirpated, Endangered, Threatened, or Rare.<sup>122</sup> This document has been incorporated by reference, however, into the rules which govern some regulatory programs. For example, the general permit for utility line crossings over floodways and navigable waterways is unavailable within ½ mile of the known occurrence of an animal or plant listed in the nonrule policy document.<sup>123</sup>

Maintaining viable native populations of wild animals is a concern of the DNR. In particular, concern about reptiles and amphibians has led to rules governing their possession and sale. A captive breeders license was established for a person who wishes to engage in the sale of native reptile species. Only eight species of snakes and rare color specimens of reptiles may be possessed, bred, and sold under a captive breeders permit. Limits are placed on how many animals may be collected from the wild and possessed. Most captive breeding stock and their offspring must be fitted with a unique passive integrated transponder to help document their lawful acquisition.<sup>124</sup>

Indiana participates in the Geographic Approach to Protection of Biological Diversity, or GAP Analysis,<sup>125</sup> lead by the US Geologic Survey and the US Fish and Wildlife Service. Conducted as state level projects, the ultimate goal of GAP Analysis is to address declining biodiversity on a national scale, thus protecting endangered species dependent upon diverse habitat. Indiana's effort has been toward a geographic information system based methodology. The system identifies gaps in the representation of biodiversity in areas managed for long term maintenance of native species and natural ecosystems.

### **Introduction or Propagation of Exotic Species**

The NRC may regulate the hunting or otherwise taking of an exotic mammal. Rules may be adopted to manage the exotic mammal in a "designated water or land area of Indiana."<sup>126</sup> A person must obtain a wild animal import permit for the importation of a wild animal for sale and release in Indiana.<sup>127</sup> A person may propagate and offer for hunting species of exotic mammals, other than carnivores,<sup>128</sup> as authorized by rule.<sup>129</sup>

A person must obtain a fish importation permit before a person imports any live fish for sale or release. In order to qualify for a permit, the applicant must demonstrate the fish to be imported: (1) is free of any

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<sup>120</sup> IC 14-22-34-7(b)(2).

<sup>121</sup> "Wildlife" is specially defined, relative to nongame and endangered or threatened species, to mean any wild mammal, bird, reptile, amphibian, fish, mollusk, or crustacean.

<sup>122</sup> 15 Ind. Reg. 1312-1327 (April 1, 1992).

<sup>123</sup> 310 IAC 6-1-19.

<sup>124</sup> Indiana LSA Document #98-238(F) amends several provisions of 312 IAC 9 to address the sale and transport of reptiles and amphibians native to Indiana. In addition, the amendments regulate the sale and transport of dangerous reptiles (most notably, venomous snakes and crocodilians).

<sup>125</sup> Web sites for the Indiana GAP Analysis include <http://www.gap.uidaho.edu/gap/Projects/States/Dynamic/detail.asp?State=in> and <http://www.139.102.7.220/h1/bertha/gap/>. Additional information can be obtained from Forest Clark of USFWS at (812) 334-4261 ext. 206 or by writing to him at 620 S. Walker St., Bloomington, IN 47403.

<sup>126</sup> IC 14-22-2-6.

<sup>127</sup> 312 IAC 9-10-20

<sup>128</sup> IC 14-22-31-14.

<sup>129</sup> IC 14-22-31-7. However, no rule has been adopted under this section.



communicable disease; (2) will not become a nuisance; and, (3) will not damage a native wild species or a domestic species of animal or plant. Exempted from the requirement are live fish for use in a zoo or for use in the aquarium pet trade. Also exempted, unless genetically altered, are several species already common to Indiana waters.<sup>130</sup>

The Commissioner of Agriculture is required to: (1) organize and develop an information and market research center for aquaculture; (2) instigate the formation of a market and development plan for the aquaculture industry; and, (3) encourage the development and growth of aquaculture.<sup>131</sup> A person who wishes to propagate fish must obtain an aquaculture permit. An application must be made on a department form, and the DNR may “attach any appropriate conditions to the permit.” Special restrictions are provided by rule for the importation or transportation of triploid or diploid grass carp.<sup>132</sup> Aquaculture facilities, or concentrated aquatic animal production facilities, as defined by federal regulation<sup>133</sup> are also point sources subject to NPDES permit requirements.

The importation of nuisance species may be prohibited. Currently, by rule, exotic catfish and rudd may not be possessed or released into public or private waters.<sup>134</sup>

The NRC has adopted a nonrule policy document for zebra mussel containment. Basic decontamination standards are referenced for live wells, bilges, anchors, and aquatic similar equipment. Currently, the standards apply only to DNR employees, but the document anticipates a multiagency effort directed to general use in order “to reduce the opportunity for the unintentional spread of zebra mussels to uncontaminated areas.”<sup>135</sup>

The DNR's Division of Entomology and Plant Pathology (DEPP) may inspect any site in Indiana where agricultural, horticultural, or sylvan products are being grown, shipped, sold, or stored to determine if a pest or pathogen is present. If the site is infested with a pest or pathogen that is likely to spread, the State Entomologist may declare the site an infested area. Agricultural, horticultural, or sylvan products capable of disseminating the pest or pathogen are to be destroyed, treated, or otherwise disposed of as ordered by the DNR.<sup>136</sup> The State Entomologist also has authority to treat, prevent the movement, or require the destruction of a “plant or element of beekeeping that contains a pest or pathogen that may pose an environmental, a health, or an economic hazard to Indiana.”<sup>137</sup> A “pest or pathogen” may be an arthropod, nematode, microorganism, fungus, parasitic plant, mollusk, plant disease, or exotic weed.<sup>138</sup> Particular pests or pathogens are identified by rule. Examples include Africanized bees,<sup>139</sup> black stem rust,<sup>140</sup> and larger pine shoot beetles.<sup>141</sup> With the westward expansion into Indiana of the gypsy moth, a permanent quarantine has been established for a northeastern county.<sup>142</sup> In 1999 Porter County was subjected to an emergency gypsy moth quarantine.<sup>143</sup> Generally, *Rosa multiflora* and *Lythrum* (more

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<sup>130</sup> 312 IAC 9-10-15.

<sup>131</sup> IC 4-4-3.8.

<sup>132</sup> 312 IAC 9-10-17.

<sup>133</sup> Concentrated aquatic animal production facilities are at 40 CFR 122.24.

<sup>134</sup> 312 IAC 9-6-7.

<sup>135</sup> A copy of the nonrule policy document may be accessed on the Internet at <http://www.ai.org/nrc/zebra.htm/>

<sup>136</sup> IC 14-24-4.

<sup>137</sup> IC 14-24-2-5.

<sup>138</sup> IC 14-8-2-203.

<sup>139</sup> 312 IAC 18-3-7.

<sup>140</sup> 312 IAC 18-3-8.

<sup>141</sup> 312 IAC 18-3-12.

<sup>142</sup> 312 IAC 18-3-14.

<sup>143</sup> 22 Ind. Reg. 2536 (May 1, 1999).

commonly known as “purple loosestrife”) may not be planted or sold in Indiana, although a permitting process is available for species of *Lythrum* demonstrated to be native to Indiana.<sup>144</sup>

DNR represents Indiana on the Great Lakes Panel on Aquatic Nuisance Species. The Great Lakes Commission convened the Panel in response to the federal Nonindigenous Aquatic Nuisance Species Prevention and Control Act of 1990.<sup>145</sup> Activities of the Panel include identifying Great Lakes’ priorities, making recommendations to the national Task Force on Aquatic Nuisance Species, and coordinating exotic species program activities in the region.<sup>146</sup>

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<sup>144</sup>. 312 IAC 18-3-13.

<sup>145</sup> 16 USC 4701, et seq.

<sup>146</sup> The Great Lakes Panel on Aquatic Nuisance Species is further explained at <http://www.glc.org/projects/ans/anspanel.html>.

## Matrix 5-5: Cross-reference of Natural Areas, Fisheries, Wildlife, and Native and Exotic Species Laws and Guidance Documents

Programs and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
Filling Dredging, and Alteration of Wetlands and Special Aquatic Sites				
SECTION 401 WATER QUALITY CERTIFICATION PROGRAM: Certification is required for an activity that may result in any discharge into navigable waters. Activities are reviewed for consistency with state water quality standards. The certification is required before permits sought under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899 are approved.	33 USC 1341 IC 13-18-4-5 IC 13-13-5-1  327 IAC 2-1.5-5-4  Wetlands and Habitat Mitigation Nonrule Policy  Interagency Coordination Agreement on Wetland Mitigation Banking within the State of Indiana <sup>1</sup>	Standards in the water quality rules are applied to the water quality certification program.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 233-8488 1-800-451-6027	Section 401 water quality certification
RULE 5: Authorizes general permit for construction activities disturbing five or	327 IAC 15-5	Detailed criteria and conditions are contained in the rule.	IDEM, Office of Water Management	327 IAC 15-5

<sup>1</sup> This agreement between the Louisville Army Corps, Detroit Army Corps, NRCS, EPA, USFWS, and DNR can be read at <http://www.lrl.usace.army.mil/orf/info/ICA1097.html>.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
more acres of land. Goal is to reduce pollutants, principally sediment as a result of soil erosion, in storm water discharges into surface waters of the state.			100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 233-6725 1-800-451-6027  Local SWCD  DNR, Division of Soil Conservation 402 W. Washington St., Rm. W265 Indianapolis, IN 46204 (317) 233-3870	
CONSTRUCTION IN A FLOODWAY PERMIT PROGRAM: <sup>2</sup> Flood control works, structures, and the alteration of waterways are to be designed according to sound engineering practices to minimize flooding. A DNR permit is required before these types of activities are undertaken.	IC 14-28-1  310 IAC 6-1  Wetland Conservation Guidelines  Wetlands and Habitat Mitigation Nonrule Policy  Memo of Understanding for Determining Wetland or Habitat	(1)Impact of the activity on the capacity of the floodway; (2) hazard to the safety of life or property; and (3) the cumulative effects of a project or projects upon the floodway.  If a project subject to permit under the Flood Control Act is also located within a navigable waterway, it does not require a separate permit under the Navigable Waterways Act provided the Navigable Waterways Act evaluation	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755  North Region Environmental Biologist RR 6, Box 334 Peru, IN 46970 (765) 472-7981	IC 14-28-1 310 IAC 6-1

<sup>2</sup> Additional information regarding the construction in a floodway permit program and the opportunity for electronic permit application filing can be accessed at <http://www.state.in.us/dnr/water>.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
	<p>Compensatory Mitigation<sup>3</sup></p> <p>Interagency Coordination Agreement on Wetland Mitigation Banking within the State of Indiana<sup>4</sup></p> <p>DNR APPLICATION ASSISTANCE MANUAL (1996)</p> <p>INDIANA DRAINAGE HANDBOOK: AN ADMINISTRATIVE AND TECHNICAL GUIDE FOR ACTIVITIES WITHIN INDIANA'S DRAINAGEWAYS (1996)</p>	criteria are applied as well.		
NAVIGABLE WATERWAYS PERMIT PROGRAM: <sup>5</sup> A permit is required for activities that place, fill, or erect a permanent structure in a navigable waterway; or remove water or material from a navigable waterway.	<p>IC 14-29-1</p> <p>312 IAC 1-1-26</p> <p>312 IAC 6</p> <p>Roster of Indiana</p>	(1) Whether the activity would unreasonably impair the navigability of the waterway; (2) cause significant harm to the environment; or, (3) pose an unreasonable hazard to life or	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160	<p>IC 14-29-1</p> <p>312 IAC 6</p>

<sup>3</sup> This MOU is between DNR, DOT, and the US Fish and Wildlife Service. Additional information about the MOU can be read at <http://www.ai.org/nrc/wetlands.htm>.

<sup>4</sup> This agreement between the Louisville Army Corps, Detroit Army Corps, NRCS, EPA, USFWS, and DNR can be read at <http://www.lrl.usace.army.mil/orf/info/ICA1097.html>.

<sup>5</sup> Additional information regarding the navigable waterways permit program, and the opportunity for electronic permit application filing can be accessed at <http://www.state.in.us/dnr/water>.

<sup>6</sup> This MOU is between DNR, DOT, and the US Fish and Wildlife Service. Additional information about the MOU can be read at <http://www.ai.org/nrc/wetlands.htm>.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
	<p>Waterways Declared Navigable</p> <p>Wetland Conservation Guidelines</p> <p>Wetlands and Habitat Mitigation Nonrule Policy</p> <p>Memo of Understanding for Determining Wetland or Habitat Compensatory Mitigation<sup>6</sup></p> <p>Interagency Coordination Agreement on Wetland Mitigation Banking within the State of Indiana<sup>7</sup></p> <p>DNR APPLICATION ASSISTANCE MANUAL (1996)</p>	<p>property. In addition, impact of the activity on the “public trust doctrine,” and the likely affect the activity will have on others must be considered.</p> <p>A navigable waterway permit is not required if a permit for the same project has been obtain under IC 14-21-1, IC 14-28-1, IC 14-29-3, IC 14-29-4, IC 14-34, or IC 14-37 and the requirements of the Navigable Waterways Act have been applied in the project review.</p>	1-877-928-3755	
LAKE PERMIT PROGRAM: Provides protection for water levels and quantity of public freshwater lakes. Activities	<p>IC 14-26-2</p> <p>IC 14-26-5</p> <p>IC 14-26-6</p>	DNR staff assesses singular and cumulative impact on the lake and its resources using the	DNR, Division of Water 402 W. Washington St.,	<p>IC 14-26-2</p> <p>IC 14-26-5</p> <p>IC 14-26-6</p>

<sup>7</sup> This agreement between the Louisville Army Corps, Detroit Army Corps, NRCS, EPA, USFWS, and DNR can be read at <http://www.lrl.usace.army.mil/orf/info/ICA1097.html>.

<sup>8</sup> The document was published in the INDIANA REGISTER, Volume 19, Number 4, (19 IR 940) on January 1, 1996.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
regulated include: (1) Changing the water level of a public freshwater lake by excavating, filling in, or otherwise causing a change in its area, depth, or contour. (2) Altering a ditch or drain with a level lower than, and located within ½ mile of, a lake containing at least ten acres. (3) Lowering a lake containing at least 20 acres more than a foot below its elevation as established by a dam or other control structure. (4) Establishing a ditch or drain with a bottom depth lower than the level of a freshwater lake, and located within ½ mile of the lake. (5) Stabilizing, raising, or maintaining the level of a lake.  Lake Michigan, Wolf Lake, and Lake George in Hammond are exempted.	IC 14-26-7 IC 14-26-8  312 IAC 11  Wetlands Within Public Freshwater Lakes <sup>8</sup>  Wetland Conservation Guidelines  Wetlands and Habitat Mitigation Nonrule Policy  SHORELINE PROTECTION GUIDE (For inland lakes.)	criteria outlined in the statute involving natural resources, natural scenic beauty, and recreational purpose.  The criteria evaluated during a project's assessment include (1) whether or not the project will result in a taking of the lake; (2) whether or not the project will result in significant environmental harm to the lake; and (3) whether or not the project will adversely impact navigation.	Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-26-7 IC 14-26-8  312 IAC 11
OBSTRUCTION OF FISH MOVEMENT: An obstruction, other than a dam, cannot be placed on a waterway that prevents the movement of fish.	IC 14-22-9-9	A dam on a stream with a watershed of at least 50 square miles may be required to maintain a “sufficient head of water above the dam to support fish life” and to incorporate an adequate fish ladder.	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-22-9-9
WETLAND RESTORATION GENERAL PERMIT: Wetland restoration measures undertaken in a floodway in cooperation with the DNR, US Fish and Wildlife Service, or the US Natural Resource Conservation Service, and meet conditions set by rule, are exempted from	310 IAC 6-1-15	To qualify for the general permit, the design, construction, and maintenance of the measure must not, considering its individual and cumulative effects: (1) adversely affect the efficiency of, or unduly restrict	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	310 IAC 6-1-15

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
the Flood Control Act.		the capacity of, the floodway; (2) constitute an unreasonable hazard to the safety of life or property; (3) result in unreasonable detrimental effects upon fish, wildlife, or botanical resources; (4) obstruct more than five percent (5%) of the cross section of the flood plain during a regulatory flood; or, (5) remove more than one-half (1/2) acre of forest.		
WETLAND MITIGATION BANKING: Designation of suitable properties that can serve to mitigate unavoidable wetland impacts due to excavating, filling, flooding, and draining “waters of the United States.”	Interagency Coordination Agreement on Wetland Mitigation Banking within the State of Indiana  IC 13-18 IC 14-28-1 IC 14-29-1 IC 13-13 IC 13-14 IC 14-26-2 IC 14-26-5 IC 14-22-34 327 IAC 2	The agreement establishes criteria for the establishing, owning, and operating wetland mitigation banks. In addition criteria are set forth for authorizing applicants to withdraw credits from a mitigation bank.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	Not applicable.
INDIANA WETLAND CONSERVATION PLAN: Guidance for wetland conservation efforts developed by agencies and interested persons.	A SUMMARY OF WETLANDS CONSERVATION PROGRAMS IN	The plan reviews the status of Indiana wetlands and includes steps to develop a rating system to determine quality of wetlands.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273	Not applicable.



<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
	INDIANA: AN ADDENDUM TO THE INDIANA WETLANDS CONSERVATION PLAN (June 1996).		Indianapolis, IN 46204 (317) 232-4080	
Natural Areas, Nature Preserves, Wildlife Habitat Areas, and Areas of Exceptional Ecological Significance				
STATE PARKS: DNR has the general authority to purchase land for the development of a park or scenic area.	IC 14-19-1	(1) A new state park should contain a "relatively extensive area containing scenic, natural, or cultural resources of significant value" that are capable of being reasonably maintained "in their natural condition" and where "opportunities for appropriate types of recreation" can be provided "without destroying or impairing the resources." <sup>9</sup> (2) A small state park shall include between 50 and 500 acres, be capable of supporting 120 visitors, and provide parking for at least 30 cars. At least 20% of the site must be suitable for the development of facilities such as buildings and parking. The site must have the potential for developing woodland on at least	DNR, Division of Parks and Reservoirs 402 W. Washington St., Rm. W298 Indianapolis, IN 46204 (317) 232-4124	Not applicable.

<sup>9</sup> Division of State Parks, Statement of Philosophy (1984).

<sup>10</sup> Correspondence from James M. Ridenour, Director of the Department of Natural Resources, to Members of the Indiana General Assembly (February 6, 1987).

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		80% of the land. At least 33 1/3% must be suitable to activities such as cultural arts, historic interpretation, nature interpretation, and trails. <sup>10</sup>		
NATURE PRESERVES: Provides permanent protection for significant natural areas in the state.	IC 14-31-1-7	Nature preserves are to be established: (1) for scientific research in fields such as ecology, taxonomy, genetics, forestry, pharmacology, agriculture, soil science, geology, paleontology, conservation, and similar fields; (2) for the teaching of biology, natural history, ecology, geology, conservation, and other subjects; (3) as habitats for plant and animal species and communities and other natural objects; (4) as reservoirs of natural materials; (5) as places of natural interest and beauty; (6) as living illustrations of our natural heritage to be observed and experienced; (7) to promote understanding and appreciation of the esthetic, cultural, scientific, and spiritual values of the areas; or, (8) for the preservation and protection of nature preserves against modification or encroachment	DNR, Division of Nature Preserves 402 W. Washington St., Rm. W 267 Indianapolis, IN 46204 (317) 232-4052  Regional Ecologist Jasper-Pulaski Fish and Wildlife Area RR 1, Box 216 Medaryville, IN 47957 (219) 843-5012	IC 14-31-1-7

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		resulting from occupation, development, or other use that would destroy the natural or aesthetic conditions of nature preserves.		
UNIFORM CONSERVATION EASEMENT: Authorizes the voluntary transfer of land for a variety of purposes.	IC 32-5-2.6-1	Easements are to: (1) retain or protect natural, scenic, or open-space values of real property; (2) assure its availability for agricultural, forest, recreational, or open-space use; (3) protect natural resources; (4) maintain or enhancing air or water quality; or, (5) preserve the historical, architectural, archeological, or cultural aspects of real property.	A governmental body or charitable association empowered to hold property.	Not applicable.
NATURAL, SCENIC, AND RECREATIONAL RIVERS: Designation provides for protection and improvement of a specified river by a local commission established for this purpose.	IC 14-29-6 312 IAC 7-2	General factors evaluated before a river is designated include: (1) length of segment; (2) condition of naturally occurring vegetation; (3) stream scenic view; (4) physical modification of stream course; (5) human developments along stream; (6) unique or special features of area; (7) water quality; (8) paralleling roads; and, (9) number of stream crossings.	DNR, Division of Outdoor Recreation 402 W. Washington St., Rm. W271 Indianapolis, IN 46204 (317) 232-4070	Not applicable.
INDIANA HERITAGE TRUST PROGRAM: Mechanism to acquire land for several purposes relating to protection of natural and cultural resources.	Ind. P.L. 69-1992 IC 14-12-2-1	Money may be used for the following: (1) Acquisition costs, such as costs of surveying, title insurance, and other activities	Indiana Heritage Trust Program 402 W. Washington St., Rm. W256	Not applicable.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		associated with the transfer of title to property. (2) Costs of services and expenses related to acquisition, such as engineering, appraisal, environmental, accounting, project development, and legal services and expenses. Money in the fund may not be used for the following: (1) The costs of construction of structures other than those authorized. (2) The costs of removal (as defined in IC 13-11-2-187) and remedial action (as defined in IC 13-11-2-185) relating to hazardous substances (as defined in IC 13-11-2-98). (3) The costs of wastewater treatment.	Indianapolis, IN 46204 (317) 232-4020	
CLASSIFIED WILDLIFE HABITAT PROGRAM: Voluntary program for protection of wildlife habitat on private land. Property tax limited to \$1 per acre of classified land.	IC 6-1.1-6.5-2(a) and 8	Site must: (1) contain a good stand of vegetation that is capable of supporting wildlife species; (2) be conducive to wildlife management; (3) contain at least 15 acres of which no more than ten acres can be woodland; and (4) not contain a dwelling or other usable building.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	Not applicable.
CLASSIFIED RIPARIAN LAND PROGRAM: Voluntary program for the protection of riparian habitat. Property tax limited to \$1 per acre of classified land.	IC 6-1.1-6.5-2(b)	Site must be: (1) a stream bed or vegetated land adjacent to a stream bed within 100 feet from the line of nonaquatic	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273	Not applicable.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		vegetation; and, (2) conducive to riparian management.	Indianapolis, IN 46204 (317) 232-4080	
CLASSIFIED FOREST PROGRAM: Voluntary program for the protection of forested land. Property tax limited to \$1 per acre of classified land.	IC 6-1.1-6-14 and 19 IC 6-1.1-6-2 and 3  312 IAC 15	(1) A parcel of land may not be classified as native forest land or a forest plantation unless it contains at least ten acres, but the parcel may be of any shape whatsoever. This section does not apply to land classified before July 26, 1967. (2) A parcel of land may not be classified as native forest land or as a forest plantation if it is grazed by a domestic animal. However, this section does not apply to domestic fowl if they do not have a detrimental effect on timber production. (3) A parcel of land may not be classified as native forest land or as a forest plantation if it contains an open area. However, this section does not apply if the open area is authorized by a special permit issued by the state forester.  The following types of trees are not considered timber producing trees: dogwoods (Cornus); water-beech (Carpinus); ironwood (Ostrya); red bud (Cercis); sassafras; persimmon; pawpaw; black haw; willows	DNR, Division of Forestry 402 W. Washington St., Rm. W 296 Indianapolis, IN 46204 (317) 232-4105	312 IAC 15

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		(Salix); pomaceous trees; and Christmas trees which are grown for commercial purposes.		
REGISTRY OF AREAS OF UNUSUAL SIGNIFICANCE: Recognizes natural areas of high quality considered unique in Indiana. The Division of Nature Preserves also records significant natural areas in the Indiana heritage Data Center which is designed to provide accurate information about the development of ecosystems, species, landscape features, outdoor amenities, and ensure adequate evaluation methodology of the data for setting sound land protection priorities.	IC 14-31-1-8	Natural area is included if it (1) Retains or has reestablished the area's natural character, although the area need not be undisturbed. (2) Has unusual flora or fauna; or biotic, geological, scenic, or paleontological features of scientific or educational value.	DNR, Division of Nature Preserves 402 W. Washington St., Rm. W 267 Indianapolis, IN 46204 (317) 232-4052	Not applicable.
INDIANA NATURAL HERITAGE CAMPAIGN: Promotes preservation of areas of unusual natural interest for scientific, educational, recreational, cultural, and aesthetic purposes as a link to Indiana's past and a legacy to Indiana's future.	IC 14-31-2	The maximum number of acres that can be acquired under the campaign is 15,000. Purchases can only be made from willing sellers.	DNR 402 W. Washington St., Rm. W256 Indianapolis, IN 46204 (317) 232-4020	Not applicable.
INDIANA FOREST LEGACY PROGRAM: Identifies environmentally important forests and protects them by purchasing the development rights from willing sellers. Portions of Porter and LaPorte Counties are designated as a legacy area.	IC 14-23-1-1	Nominated parcels are evaluated using ecological criteria and a point scale. The maximum number of points is 500. The general criteria include: (1) riparian or hydrologic areas; (2) existing or potential public recreation opportunities; (3) scenic resources; (4) known cultural or historical areas; (5) provide opportunity for tradition	DNR, Division of Forestry 402 W. Washington St., Rm. W296 Indianapolis, IN 46204 (317) 232-4105	Not applicable.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		forest uses; (6) fish and wildlife habitat; (7) known rare, threatened, and endangered species; (8) other ecological values; and, (9) acquirability and manageability.		
URBAN FOREST CONSERVATION FUND: Grants to help communities develop long term programs to manage their urban forests. Projects that help improve and protect trees and other associated natural resources in urban areas are eligible. Tree Cities may spend up to 20% of the grant funds on demonstration tree planting projects. Municipalities and not-for-profit organizations are eligible to apply for \$2,000 to \$20,000. Grantees must match the grant with in-kind and/or monetary match. <sup>11</sup>		Applicant must be a municipality or a not-for-profit organization with 501(c)(3) status. Qualified projects are those associated with training and education, or management planning for tree care.	DNR, Urban Forestry 9245 North Meridian, Suite 118 Indianapolis, IN 46260 (317) 582-2410	Not applicable.
STATE FOREST FUND: Part of the annual property tax assessment of Indiana properties is deposited in the fund.	IC 14-23-3	The DNR may use the fund for the: (1) purchase, supervision, and development of state forests and State forest land; (2) growing and distribution of forest tree seedlings for state and private forest planting; (3) organized prevention, detection, control, and suppression of forest fires in the	DNR, Division of Forestry 402 W. Washington St., Rm. W296 Indianapolis, IN 46204 (317) 232-4105	Not applicable.

<sup>11</sup> This information was obtained from the DNR Division of Forestry web site at <http://www.state.in.us/dnr/forestry/htmldocs/grants.htm>.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		forests, woodlands, and plantations within Indiana; and, (4) providing of forestry assistance to farmers and private forest landowners for the purpose of providing for the better protection, management, development, and utilization of forest products and forests located in Indiana.		
HOMETOWN INDIANA GRANTS: Division of Forestry is one of three DNR divisions that administer this grant. Forestry purposes eligible for the grant program include community projects that share the cost of tree planting and other urban forestry projects. <sup>12</sup>	IC 14-12-3  310 IAC 17-5	Factors considered in rating grant applications for community forestry: The priority given to the project type by rule. (2) The feasibility of the project. (3) The need for the project in the area served, including economic benefits. (4) The extent of public support for the project, as evidenced by public meetings, surveys, and correspondence. (5) The compatibility of the project with other facilities. Items considered within this subdivision include the locations of existing and planned roads, utility lines, pipelines, sidewalks, and buildings. (6) Whether the	DNR, Urban Forestry 9245 North Meridian, Suite 118 Indianapolis, IN 46260 (317) 582-2410	Not applicable.

<sup>12</sup> This information was obtained from the DNR Division of Forestry web site at <http://www.state.in.us/dnr/forestry/index.html>.



<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		applicant has received previous grants under this article or another law providing similar benefits. An applicant who has not previously received funding receives a higher priority than an applicant that has. (7) Whether the project will benefit a large number of individuals as opposed to a small number of individuals. (8) THE HISTORY OF AN APPLICANT IN PROCESSING PRIOR GRANTS. CONSIDERATION IS GIVEN TO WHETHER OR NOT PREVIOUS GRANTS HAVE BEEN ADMINISTERED EFFECTIVELY, EFFICIENTLY, AND ACCORDING TO STANDARDS ESTABLISHED BY THE ENTITY PROVIDING THE GRANT. (9) THE LIKELY DURATION OF BENEFITS DERIVED FROM THE PROJECT.		
Hunting, Fishing, Trapping, and Related Activities				
HUNTING AND TRAPPING LICENSES: A license must be obtained before an individual hunts or traps in Indiana.	IC 14-22 312 IAC 9-2 312 IAC 9-3 312 IAC 9-4	Conditions for the purchase of hunting and trapping licenses are based upon age, residence, and license duration.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232- 4080	IC 14-22  312 IAC 9
SPORT AND COMMERCIAL FISHING LICENSES:	IC 14-22	Conditions of the purchase of a sport fishing licenses are based	DNR, Division of Fish and Wildlife	IC 14-22

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
A license must be obtained before an individual fishes in Indiana waters. A commercial license must be obtained before an individual or company fishes for commercial purposes in Indiana waters.	312 IAC 9-7 312 IAC 9-8-2 312 IAC 9-8-3	upon age, residence, and license duration.  Standards for licenses allowing species to be taken commercially are highly restrictive because of a current ban on commercial fishing for lake perch. Commercial fishing licenses are not active in Indiana waters of Lake Michigan.	402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232- 4080	312 IAC 9
<b>Fish and Wildlife Habitat Areas</b>				
FISH AND WILDLIFE FUND: Accumulation of fines collected for violations of fish and wildlife laws. Funds activities to protect game, fish, and birds.	IC 14-22-3	Money in the fund shall be used for the following purposes: (1) Protecting and propagating game, fish, and birds in Indiana. (2) Paying the operational expenses of fish and wildlife division and the law enforcement division. Money in the fund that is attributable to money deposited under IC 33-19-7-5 shall be used to administer the turn in a poacher program established and the reward system established under the program.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	Not applicable.
LAND ACQUISITION: Land acquisition is authorized in several statutes pertaining to resources issues.	IC 14-17-3-1 IC 14-22-3 IC 14-22-34-14(a)	Funding may be used for sites to protect and propagate game or to acquire land or aquatic habitat for nongame species.	DNR, Division of Land Acquisition; 402 W. Washington St., Rm. W 255A; Indianapolis, IN 46204; (317) 232-4050	Not applicable.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
VOLUNTARY FISH AND WILDLIFE LAND ACQUISITION STAMP: A stamp is designed by the DNR Division of Fish and Wildlife and offered for sale to support management of fish and wildlife.	IC 14-12-2-35	The money collected by the DNR from the sale of the stamps shall be deposited in the fish and wildlife account established within the Indiana Heritage Trust Fund.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	Not applicable.
FISH AND WILDLIFE ACCOUNT: An element of the Indiana Heritage Trust Program the Account includes proceeds from a voluntary fish and wildlife land acquisition fund to purchase property for fish and wildlife management.	IC 14-12-2-26	Money in this account may be used only to purchase property for fish or wildlife management purposes.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	Not applicable.
Management of Fish and Wildlife				
NONGAME AND ENDANGERED WILDLIFE PROGRAM (NEWP): Protects and manages more than 550 species of nongame and endangered animals in the state. These species comprise 85 percent of all the state's wildlife.	IC 14-22-2-3 IC 14-22-10-8 IC 14-22-34	A species is considered endangered if the survival or reproduction of the species in Indiana is in jeopardy or likely to become so.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	IC 14-22
NONGAME FUND: Funding is used to protect, conserve, manage, and identify nongame and endangered species of wildlife primarily through the acquisition of the natural habitat of the animals.	IC 14-22-34-20	The DNR may expend the money in the fund exclusively for the preservation of nongame and endangered species of wildlife. Money in the fund does not revert to the state general fund at the end of a state fiscal year. However, if the fund is abolished, the money in the fund reverts to the state general fund.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080  District 1 Wildlife Biologist Kankakee Fish and Wildlife Area 4320 W. Toto Rd.	Not applicable.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
			PO Box 77 North Judson, IN 46366 (219) 896-3572	
SPORT AND COMMERCIAL FISHING ON LAKE MICHIGAN: DNR is directed to protect fishery resources in Lake Michigan.	IC 14-22-14-20 through 22 312 IAC 9-8	Types of nets used and quantity of fish taken are examples of restrictions specific to Lake Michigan.	DNR, Division of Fish and Wildlife 100 W. Water St. Michigan City, IN 46360 (219) 874-6824	IC 14-22  312 IAC 9
CONSERVATION OFFICERS FISH AND WILDLIFE FUND: Established for special law enforcement investigations of fish and wildlife violations.	IC 14-9-8-21	The DNR may expend the money in the fund exclusively for special law enforcement investigations of fish and wildlife violations. (1) Purchase and repair of decoys (as defined in IC 14-22-40-2) are eligible expenses. (2) The expenses of administering the fund shall be paid from money in the fund. (3) Money in the fund at the end of a state fiscal year does not revert to the state general fund. However, if the amount of money in the fund at the end of a state fiscal year exceeds \$35,000, the treasurer of state shall transfer the excess from the fund into the fish and wildlife fund.	DNR, Division of Law Enforcement 402 W. Washington St., Rm. 255D Indianapolis, IN 46204 (317) 232-4010	Not applicable.
TURN IN A POACHER (TIP): Encourages citizen participation in preventing illegal	IC 14-9-8-23	"Poacher" includes a person or group of people that kill fish and	1-800-TIP-IDNR	Not applicable.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
activities associated with fish, game, and nongame wildlife. <sup>13</sup>		<p>wildlife by means of pollution or by destroying valuable habitat such as wetlands and rivers. Tips can be anonymous and individuals providing a report do not have to appear in court.</p> <p>DNR must (1) provide a toll free telephone number; (2) conduct a publicity campaign for the program; (3) investigate violations initiated by citizen action; and, (4) approve and coordinate reward payments.</p>		
HUNTER EDUCATION AND TRAPPER TRAINING: Hunter education includes instruction in hunter safety, principles of conservation, and sportsmanship. The trapper training program includes instruction in trapping wild animals, emphasizing methods, laws, ethics, responsibilities, natural history, wildlife management, and other matters associated with trapping.	IC 14-22-11-5 IC 14-22-35 IC 14-22-36 312 IAC 9-12	A hunter education course is required before a person born after December 31, 1986 may obtain a hunting license.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	IC 14-22 312 IAC 9
GO FISHIN: The DNR Division of Fish and Wildlife in conjunction with the Federal Sport Fish Restoration Program			DNR, Division of Fish and Wildlife 402 W. Washington St.,	Not applicable.

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<sup>13</sup> Turn in a Poacher (or Polluter) Program information can be found at <http://www.state.in.us/dnr/lawenfor/tip.htm>.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
has developed this educational program designed to provide fishing information to Hoosiers. The program consists of classroom activities and fishing field trips designed to improve students' knowledge and appreciation of Indiana's aquatic resources. <sup>14</sup>			Rm. W 273 Indianapolis, IN 46204 (317) 290-3223	
PROJECT WILD: Supplementary environmental and conservation education program emphasizing wildlife coordinated by the DNR Division of Fish and Wildlife. The program's innovative, hands-on activities are designed for students in kindergarten through grade 12. Project WILD assists learners of any age in developing the awareness, knowledge, skills and commitment to make informed decisions and act responsibly concerning wildlife and the environment. <sup>15</sup>			Natural Resources Education Center Fort Harrison State Park 5785 Glenn Road Indianapolis, IN 46217 (317) 549-0354	Not applicable.
PROJECT LEARNING TREE: Environmental education program for educators working with students preschool through grade 12. PLT helps students gain awareness and knowledge of the natural and built environment, their place within it, as well as their responsibility for it. <sup>16</sup>			Natural Resources Education Center Fort Harrison State Park 5785 Glenn Road Indianapolis, IN 46217 (317) 549-0354	Not applicable.

<sup>14</sup> Additional information on the Go FishIN program can be accessed at <http://www.state.in.us/dnr/fishwild/about/edcenter/gofishin.htm>.

<sup>15</sup> This information was found at <http://www.state.in.us/dnr/fishwild/about/edcenter/projectwild.htm>.

<sup>16</sup> <http://www.ai.org/dnr/forestry/plt/plt.html>

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
PROJECT WET: Educational program targeting K-12 to facilitate and promote awareness, appreciation, knowledge, and stewardship of water resources. Activities are designed to satisfy the goals of educational programs by complementing existing curricula rather than displacing or adding more concepts. <sup>17</sup>			Natural Resources Education Center Fort Harrison State Park 5785 Glenn Road Indianapolis, IN 46217 (317) 549-0354	Not applicable.
Rare and Endangered Plant and Animal Species				
NONGAME AND ENDANGERED WILDLIFE PROGRAM (NEWP): Protects and manages more than 550 species of nongame and endangered animals in the state. These species comprise 85 percent of all the state's wildlife.	IC 14-22-2-3 IC 14-22-10-8 IC 14-22-34	A species is considered endangered if the survival or reproduction of the species in Indiana is in jeopardy or likely to become so.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	IC 14-22
INDIANA STATE INCOME TAX FORM NONGAME CHECKOFF: This checkoff gives Hoosiers the opportunity to donate all or a portion of their state tax refund to help support NEWP projects.	IC 6-8.1-9-4	Every individual or husband and wife (other than a nonresident) who files an individual income tax return and who is entitled to a refund from the Indiana Department of Revenue because of the overpayment of income tax for a taxable year can allocate all or a portion of the return to the nongame fund.	Indiana Department of Revenue 100 N. Senate Ave. N105 Indianapolis, IN 46204 (317)232-2240	Not applicable.
RARE AND ENDANGERED INSECTS AND PLANTS: A nonrule policy document provides a listing of rare, threatened, and endangered plant and animals. In	A Roster of Indiana Animals and Plants which are Extirpated, Endangered,	A species is endangered if the prospects of survival or recruitment in Indiana of a species or subspecies is in	NRC, Division of Hearings 402 W. Washington St., Rm. W272	Not applicable.

<sup>17</sup> Additional information regarding Project Wet can be found at <http://www.state.in.us/dnr/soilcons/wet/index.htm>.

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
addition, the Division of Nature Preserves has developed lists for vertebrates, invertebrates, and vascular plants.	Threatened, or Rare	jeopardy or is “likely within the foreseeable future to become so.”	Indianapolis, IN 46204 (317) 232-4699	
GEOGRAPHIC APPROACH TO PROTECTION OF BIOLOGICAL DIVERSITY (GAP) ANALYSIS: Indiana participates in this national program addressing the issue of declining biodiversity. GAP Analysis is conducted as state-level projects. The analysis identifies the gaps in representation of biodiversity in areas managed for the long-term maintenance of native species and natural ecosystems. In Indiana, GAP Analysis is a geographic information system based methodology developed by the U.S. Fish and Wildlife Service.	IC 14-22-2-3 IC 14-22-34-7	GAP will: (1) map existing natural vegetation to the level of dominant or co-dominant plant species; (2) map predicted distribution of native vertebrate species; (3) map public land ownership and private conservation lands; (4) show the current network of conservation lands; (5) compare distributions of any native vertebrate species, group of species, or vegetation communities of interest with the network of conservation lands; and, (6) provide an objective basis of information for local, state, and national options in managing biological resources.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232- 4080  US Fish and Wildlife Service 620 S. Walker St. Bloomington, IN 46703 (812) 334-4061	Not applicable.
<b>Introduction or Propagation of Exotic Species</b>				
EXOTIC MAMMALS AND BIRDS: The NRC may regulate the taking of exotic mammals. Rules may be adopted to manage the species in a designated area of the State. Exotic mammals may be bred for hunting.	IC 14-22-2-6 IC 14-22-31-7 IC 14-22-31-14 IC 14-22-32	The DNR will inspect the (1) proposed shooting preserve; (2) facilities for propagating the game birds or exotic mammals; (3) cover; and, (4) capability of the applicant to maintain such an	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	IC 14-22 312 IAC 9



<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		operation. If found feasible, a license will be issued to the applicant.		
FISH IMPORTATION PERMIT: Regulates the import of any live fish for sale or release.	IC 14-22-25 312 IAC 9-10-15	Fish to be imported must: (1) be free of any communicable disease; (2) not become a nuisance; and, (3) not damage a native wild species or a domestic species of animal or plant.  Live fish for use in a zoo or aquarium pet trade are exempted. Several species already common to Indiana waters are also exempted.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	IC 14-22 312 IAC 9
AQUACULTURE: A permit is required before beginning aquaculture activities.  An NPDES permit from the IDEM may be required for discharges associated with these practices.	IC 14-22-27 312 IAC 9-10-17 IC 13-18-10	An aquaculture permit is required to import, raise, or transport most fish. For common native species, a fish importation permit satisfies the requirement. Special requirements apply to grass carp and other non-native species. Fish for the aquarium pet trade and display in zoos are exempted.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	IC 14-22 312 IAC 9 IC 13-18-10
NUISANCE SPECIES IMPORTATION: The possession or release of specific species may be prohibited.	IC 14-22-25 312 IAC 9-6-7	An example is the import of exotic catfish and rudd is prohibited.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	IC 14-22 312 IAC 9

<b>Programs and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
ZEBRA MUSSEL CONTAINMENT: Nonrule policy document outlining procedures primarily directed to DNR employees to prevent the unintentional spread of zebra mussels to uncontaminated waters. <sup>18</sup>	Zebra Mussel Containment Nonrule Policy <sup>19</sup>	(1) The Aquatic Nuisance Species Coordinator of the DNR will maintain a map of zebra mussel sitings. (2) An assumption should be made that zebra mussels are present unless sampling indicates otherwise. (3) Preventative steps, such as draining water from watercraft and trailers, should be taken when introducing watercraft to areas where zebra mussels have not been detected. (4) Educational materials and postings should be available to the public.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	Not applicable.
PEST AND PATHOGEN MANAGEMENT: Pests or pathogens that are considered harmful can be restricted or eliminated. Permitting processes regulate specific species.	IC 14-24-2-5 IC 14-8-2-203 312 IAC 18-3-7 312 IAC 18-3-8 312 IAC 18-3-12 312 IAC 18-3-13	A pest or pathogen may be an arthropod, nematode, microorganisms, fungus, parasitic plant, mollusk, plant disease, or exotic weed.	DNR, Division of Entomology and Plant Pathology 402 W. Washington St., Rm. W290 Indianapolis, IN 46204 (317) 232-4120	IC 14-24  312 IAC 18

<sup>18</sup> The Zebra Mussel Containment Nonrule Policy can be read at <http://www.state.in.us/nrc/policy/zebra.html>.

<sup>19</sup> *Zebra Mussel Containment*, Information Bulletin 15, Natural Resources Commission, 20 IND. REG. 1284 (February 1, 1997).

## Section 5-6: Recreation, Access, and Cultural Resources

The Indiana shoreline has been a popular place for recreation since the early 1900s. In 1925 the Indiana Dunes State Park was established, and in 1966, the Indiana Dunes National Lakeshore was authorized by Congress. Many of the municipalities along the lakeshore provide parks or other forms of access to the coast. Boating, fishing, swimming, walking, bird watching, and countless other forms of leisure are enjoyed along the shore.

A common concern is that there are limited opportunities for access to the lake. Approximately 234 square miles of Lake Michigan is held in trust as a state resource for the people of Indiana. Access to the coast is dependent on the ownership of the shoreline. Most of Indiana's shoreline is characterized by industrial, commercial, and residential development. To provide public access on private property would require resolving issues concerning user rights and liability. Another concern is the lack of information regarding the existing access sites.

Emphasis on boating safety and education was called for in the establishment of "no-boat zones." The Lake Michigan Marina Development Commission passed a resolution asking for additional efforts toward boating safety. New marinas, the popularity of personal watercraft, and the close proximity to Chicago are elements contributing to increased boat traffic. Law enforcement personnel are coordinating enforcement activities, and a boating law booklet specific to Indiana Lake Michigan waters has been prepared.

Cooperative initiatives by local and state agencies and organizations have provided for trail opportunities, fishing access, and green spaces. New initiatives could include underwater parks near shipwrecks and additional beaches accessible by boat.

While the challenges to recreation on such a complex shoreline are many, several mechanisms are available to assist in the development of access to recreation sites or enhance and protect existing recreation and access areas. The DNR Division of Outdoor Recreation is the principal state agency responsible for technical assistance for the development of recreation in Indiana. The division works closely with local governments who are largely responsible for local park development. In addition, the DNR Division of Fish and Wildlife is responsible for the development of public hunting and fishing areas and the DNR Division of Historic Preservation and Archaeology is responsible for the protection of archeological and historical sites. This section includes a description of management techniques used by state and local government to provide for and protect recreation, access, and cultural resources in the coastal area.

### Managed Activities

- Development of public park and recreation areas.
- Development of public hunting and fishing areas.
- Preservation of archeological and historical sites.

### Background

The public's right to use navigable waters for boating, fishing, and other recreational purposes is not seriously questioned.<sup>1</sup> This right was extended in 1947 by the Indiana General Assembly to all public

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<sup>1</sup> *Bainbridge v. Sherlock and Others*, 29 Ind. 364 (1868).

freshwater lakes. In enacting the legislation, the General Assembly said its intent was to assure citizens the right to use these lakes for all “proper and usual purposes,” including boating, fishing, and swimming.<sup>2</sup>

The right of citizens to use public waters does not, however, extend landward of the shoreline. Even though a waterway is public, the banks remain private.<sup>3</sup>

Government ownership is typically needed to allow for the public recreational use of areas outside public waters. At the local level in Indiana, the “public square” was an early focus of the need for, and management of, public land. An 1885 statute directed to the incorporation of towns is a good example. Towns were given authority to “plant trees upon public grounds,” to enclose “any public square or public grounds,” and to obtain insurance for those sites.<sup>4</sup>

In 1916, the former Indiana State Park Commission began acquisition of what would later become the State’s first two state parks--McCormick’s Creek and Turkey Run. Colonel Richard Lieber, the first director of the Indiana Department of Conservation, reflected in 1928 that “A state park must have either scenic or historic value or both, and [a state park] is dedicated to the public for the intelligent use of its leisure time.” In 1944, Director of State Parks, Charles A. DeTurk, confirmed Lieber’s vision and underlined that one purpose of a state park was to “provide outdoor recreation—opportunity for the public to enjoy, use, and live for a while upon the land that is, in the truest sense, their own.”<sup>5</sup>

In 1945, legislation was enacted to license persons to operate “public services and facilities” (today commonly called “concessions”) on “public parks and other suitable places of recreation.”<sup>6</sup> The legislation was found sufficient to authorize the issuance of notes for the purchase of hotel equipment on state parks.<sup>7</sup>

Legislation has also been enacted to promote a variety of other uses supportive of recreation and of the enjoyment of natural and cultural resources. State forest preserves were authorized in 1901.<sup>8</sup> A system of nature preserves was initiated in 1967.<sup>9</sup> The DNR’s “section of historic sites and structures” was established ten years later to set standards for the purchase and operation of historic sites.<sup>10</sup> The Indiana Attorney General found the legislation allowed the DNR to preserve Lake Michigan shipwrecks for both historical and recreational diving purposes.<sup>11</sup>

## **Implementation of Management Techniques**

### **Development of Public Park and Recreation Areas**

As a result of an ongoing process of evaluating Indiana's outdoor recreation achievements, the DNR Division of Outdoor Recreation produces the Statewide Comprehensive Outdoor Recreation Plan (SCORP) every five years. The entire State is examined to document its resources, needs, and issues for

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<sup>2</sup> 1947 Ind. Acts, Ch. 181, Preamble.

<sup>3</sup> *Bainbridge v. Sherlock* at 370.

<sup>4</sup> 1885 Ind. Acts, Ch. 60.

<sup>5</sup> Lindsey, *Natural Features of Indiana*, PROCEEDINGS OF INDIANA ACADEMY OF SCIENCE, 591 (1966).

<sup>6</sup> 1945 Ind. Acts, Ch. 353, §12.

<sup>7</sup> 1946 Ind. O.A.G. 43.

<sup>8</sup> 1901 Ind. Acts, Ch. 49, §4.

<sup>9</sup> 1967 Ind. Acts, Ch. 266.

<sup>10</sup> 1977 Ind. Acts, P.L. 163, §1.

<sup>11</sup> 1980 Ind. O.A.G. 78 (80-26).

the SCORP. A citizen group known as the Plan Advisory Committee assists in the document preparation. The document outlines issues local citizens would like to see addressed and recommended alternatives for action.

The SCORP is submitted to the National Park Service every five years to remain eligible for the Federal Land and Water Conservation Fund monies, which are passed through to qualified local park boards. The Land and Water Conservation Fund is administered at the federal level by the National Park Service. States receive the grant monies and distribute the funds on a competitive basis to eligible local entities, and state outdoor recreation projects. In Indiana the program is administered by the DNR's Division of Outdoor Recreation. The program provides 50% reimbursement grants to assist park and recreation boards and state projects in acquiring and developing outdoor recreation areas for public use.

The Hometown Indiana Grant Program provides a 50% matching grant for local parks and recreation, local historic preservation, and urban forestry. The parks and recreation grants are administered by the DNR Division of Outdoor Recreation.<sup>12</sup> The SCORP must also be considered in developing priorities for the Hometown Indiana Grant Program.<sup>13</sup>

In 1996 the Division of Outdoor Recreation inventoried recreation sites and amenities in the three county coastal area. In addition, the Division held focus group meetings and conducted a survey along the shoreline to gain a better understanding of the access needs of those interested in recreation on Lake Michigan. The information was compiled in both narrative and map form and published in a guide for public distribution. The INDIANA LAKE MICHIGAN RECREATIONAL ACCESS GUIDE is also available on the Internet.<sup>14</sup>

The Recreational Development Commission was established by the General Assembly to assist the State with the construction, improvement, operation, and maintenance of park projects.<sup>15</sup>

### Parks and Nature Preserves

Nature preserves may be established to maintain "habitats for plant and animal species and biotic communities whose diversity enriches the meaning and enjoyment of human life." These sites are intended as "reminders of the vital dependence of the health of the human community upon the health of the natural communities of which the human community is an inseparable part."<sup>16</sup> A nature preserve may be owned by the State, another unit of government having jurisdiction over the area, or a private owner.<sup>17</sup> A dedication as a nature preserve is only effective upon the development of "articles of dedication," which provide for the preservation and management of a site, their acceptance by the DNR, and upon recording the articles of dedication in the county in which the site is located.<sup>18</sup>

Subject to the approval of the Governor, the DNR has general authority to purchase land for the development of a state park or a similar scenic area.<sup>19</sup> Additionally, the DNR may develop a "small state

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<sup>12</sup> IC 14-12-3 and 312 IAC 26-3.

<sup>13</sup> 312 IAC 26-2-2(d).

<sup>14</sup> The INDIANA LAKE MICHIGAN RECREATIONAL ACCESS GUIDE (1996) can be found at Internet address <http://www.state.in.us/dnr/lakemich/recguide.htm>.

<sup>15</sup> IC 14-14-1.

<sup>16</sup> IC 14-31-1-1(a).

<sup>17</sup> IC 14-31-1-11(a).

<sup>18</sup> IC 14-31-1-11(b) and IC 14-31-1-12.

<sup>19</sup> IC 14-19-1-1(4).

park” (not to contain more than 500 acres) for recreational or cultural activities by the public. A small state park must contain or be adjacent to surface water.<sup>20</sup>

### Bathing Beaches

The sandy beaches of Indiana’s Lake Michigan shoreline draw visitors by the tens of thousands during the summer months. Access to these treasures is offered by the Indiana Dunes State Park, Indiana Dunes National Lakeshore, and several municipalities. Inland lakes also provide access to water activities.

There are challenges to protecting wide beaches in the midst of multiple shoreline uses. Erosion threatens the beaches at specific points along the coast, depending on the erosion control structures present nearby and lake level fluctuation. Inland lakes may suffer erosion due to increased wave action resulting from boating activities. Water quality at bathing beaches is also a concern.

Beach nourishment is a method that can be used to supplement beaches losing sand due to structures or high lake levels. A person must obtain a permit from the DNR under the Navigable Waterways Act to place fill, erect a permanent structure, or remove material from a navigable waterway.<sup>21</sup> The “Sand Nourishment Fund”<sup>22</sup> provides a mechanism to protect and increase sand in Indiana along Lake Michigan. A royalty fee for the removal of materials dredged from the bed of Lake Michigan may be waived if the person authorized to dredge agrees to place any suitable dredge materials along the Lake Michigan shoreline as beach nourishment for the beneficial use of the general public.<sup>23</sup> Some beach nourishment activities may also qualify for a general permit.<sup>24</sup>

Idle speed is required within 200 feet of a lakeshore.<sup>25</sup> Personal watercraft are governed by the same speed limits as are other boats.<sup>26</sup>

The NRC is authorized to adopt rules to promote the “safe operation of watercraft upon public water where unusual conditions or hazards exist.” The legislature provides specific examples where these rules may be adopted to restrict or prohibit the operation of motorboats which include near a “beach, boat launch, marina, . . . or other recreation facility.”<sup>27</sup> Several municipalities, a county park, the Indiana Dunes State Park, and the National Lakeshore have successfully petitioned the NRC to establish swimming-only areas.<sup>28</sup>

Water quality at municipal bathing beaches is monitored weekly during the summer months by local health departments. The Indiana Dunes State Park and the Indiana Dunes National Lakeshore are monitored weekly by National Lakeshore staff. Managers at beaches often restrict full body contact with the water if samples contain more than 235 *E. coli* per 100 milliliters of water.<sup>29</sup> Coordination of these efforts has been enhanced by the Interagency Task Force on *E. coli*, a voluntary group of local, state, and

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<sup>20</sup> IC 14-19-2.

<sup>21</sup> IC 14-29-1-8(a). Public or municipal utilities are exempted.

<sup>22</sup> IC 14-25-12.

<sup>23</sup> IC 14-29-3-2. 312 IAC 6-5-8(b) provides an extraction is exempt from the royalty if the “mineral is authorized by the department for placement, and is lawfully placed” in Lake Michigan for beach nourishment.

<sup>24</sup> 312 IAC 6-6.

<sup>25</sup> IC 14-1-3-8 and IC 14-15-3-17.

<sup>26</sup> IC 14-8-2-202.5.

<sup>27</sup> IC 14-15-7-3.

<sup>28</sup> Swimming areas in Lake County are established at 310 IAC 2.1-7-2, in Porter County at 310 IAC 2.1-7-3, and in LaPorte County at 310 IAC 2.1-7-4. Maps of these locations can be accessed from the PUBLICATION BOATING ON THE INDIANA WATERS OF LAKE MICHIGAN on the Internet at <http://www.state.in.us/dnr/lakemich.htm>.

<sup>29</sup> 327 IAC 2-1.5-8(e).

federal agencies, researchers, and interested individuals. The task force works to determine the sources of pollutants affecting the quality of the water at Lake Michigan beaches, while researching improved monitoring methods. Beaches at many inland lakes are also monitored.

### Trails

The DNR Division of Outdoor Recreation maintains an inventory of trails throughout the State. Trails, including bike paths and snowmobile trails, are regularly maintained and monitored by the Division. Guides for hiking, bicycling, and canoeing are periodically updated and published.

The organization of an advisory board, the Trails Advisory Board and the State designation of DNR as the agency responsible for administering the Regional Trails Program, have qualified Indiana to receive federal funds through the Recreational Trails Program, part of the federal Transportation Equity Act of the 21<sup>st</sup> Century (TEA 21).<sup>30</sup>

The Recreational Trails Program provides assistance in land acquisition and development of multi-use trails (including motorized use), stream and river access sites and other trail support facilities. The program reimburses 80% of the cost of qualified projects. Eligible participants include all units of government and organizations incorporated as not-for-profit corporations. The Program is administered at the state level by the DNR Division of Outdoor Recreation.<sup>31</sup>

In 1995 the Transportation Corridor Planning Board was established.<sup>32</sup> The board is charged with reviewing information on existing rights-of-way that might be abandoned during the following year as prepared by the INDOT and the DNR; approve or disapprove the priorities for potential future uses of rights-of-way consistent with the INDOT's comprehensive transportation plan and DNR's trail system plan; review criteria for project selection under the program; and, review procedures for public participation under the program.

The Transportation Enhancement Program is an 80% matching assistance program from the Federal Highway Administration administered by the INDOT. The Transportation Equity Act of the 21<sup>st</sup> Century (TEA 21)<sup>33</sup> continues and expands the funding of the Transportation Enhancement Program formerly available under the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA).<sup>34</sup> Money is available to government agencies for facilities that will enhance the transportation system. The program includes twelve categories of activities eligible for funds, some of which are trail related. The enhancement program is based on a cooperative working arrangement involving INDOT, the Metropolitan Planning Organizations (MPO), the Indiana Department of Commerce (IDOC), DNR, the Association of Indiana Counties, and the Indiana Association of Cities and Towns. The Committee evaluates and prioritizes the enhancement projects and prepares a list of recommended projects for consideration by INDOT.<sup>35</sup>

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<sup>30</sup> See <http://www.fhwa.dot.gov/tea21/sumenvir.htm#rtp> for information regarding the Transportation Equity Act of the 21<sup>st</sup> Century, P.L. 105-178 amended by P.L. 105-206, which replaces the National Recreational Trails Funding Act.

<sup>31</sup> Department of Natural Resources, Division of Outdoor Recreation, Annual Report of the Division of Outdoor Recreation (1996). This document can be found at <http://www.state.in.us/dnr/outdoor/report97.htm>.

<sup>32</sup> IC 8-4.5-2.

<sup>33</sup> See <http://www.fhwa.dot.gov/tea21/sumenvir.htm#rtp> for information regarding the Transportation Equity Act of the 21<sup>st</sup> Century, P.L. 105-178 amended by P.L. 105-206.

<sup>34</sup> P.L. 102-240.

<sup>35</sup> Indiana Department of Transportation, Indiana Transportation Enhancement Program: A Guide for Citizens and Local Governments (October 1998).

Snowmobile and off-road vehicles (ORVs) which are operated on public property must be registered with the DNR.<sup>36</sup> A registration fee of \$6 for a three year period is required for each ORV.<sup>37</sup> A registration fee of \$30 for a three year period is required for each snowmobile. The DNR is authorized to construct and maintain public ORV trails and snowmobile trails.<sup>38</sup> Snowmobile trail usage is limited to December 1 through March 31 when there are at least four inches of snow on the ground. Revenues derived from registrations are applied to law enforcement and for constructing and maintaining vehicle trails. To date, no ORV trails have been established or maintained under this authorization. Five public snowmobile trail systems provide approximately 200 miles of snowmobile trails. No snowmobile trails are currently located in the coastal region.

### Marina Construction

A permit is required from the DNR before a person may "erect a permanent structure" in any navigable waterway, including Lake Michigan.<sup>39</sup> In determining whether to approve the structure, DNR must consider whether the structure would "unreasonably impair the navigability of the waterway", or "pose an unreasonable hazard to life or property, or cause significant harm to the environment."<sup>40</sup>

Marina pumpout stations are addressed by the NRC. A marina is defined as a permanent structure which can service at least five boats at a time and which provides, for a fee, engine fuel, docks, boat repair, boat sales, or boat rentals. Marinas may not operate on state navigable waters and accommodate boats equipped with a wastewater holding tank unless the marina operator: (1) obtains a permit from IDEM under 327 IAC 3-2 for the construction and operation of a wastewater treatment facility or a sanitary sewer (If there is a point source discharge from the wastewater treatment facility, an NPDES permit is required under 327 IAC 5.); or, (2) obtains a permit from the ISDH under 410 IA 6-10 for the construction of a commercial on-site disposal facility.<sup>41</sup>

The federal Clean Vessel Act of 1992<sup>42</sup> provides federal funding to assist with the construction of pumpout facilities. Grants are awarded on a competitive basis and will reimburse 75% of the costs of construction. Education and outreach for boaters regarding problems resulting from the discharge of sewage from boats can also be funded. The primary funding source for the Clean Vessel Act is the Sport Fish and Restoration Account of the Aquatic Resources Trust Fund, also known as the Wallop-Breaux Fund. Revenues generated from motor boat fuel taxes have also contributed to the fund. In Indiana, IDEM administers the Clean Vessel Act funding.<sup>43</sup>

The Lake Michigan Marina Development Commission was created by the General Assembly to better achieve economic development through marina development.<sup>44</sup> Port authorities can be established to develop, enhance, and regulate activities associated with the port by municipal ordinance or resolution by the county commissioners.<sup>45</sup>

The State can provide funding to a marina located in Lake County only if the marina does each of the

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<sup>36</sup> IC 14-16-1-3.

<sup>37</sup> IC 14-16-1-10.

<sup>38</sup> IC 14-16-1-26 and IC 14-16-2-27.

<sup>39</sup> IC 14-29-1-8(a)(1).

<sup>40</sup> IC 14-29-1-8(c).

<sup>41</sup> 310 IAC 21-2-7.6 and 310 IAC 21-4-3.

<sup>42</sup> 33 U.S.C. 1322. Funding through 2003 is provided through Tea 21. 16 U.S.C. 777c.

<sup>43</sup> CLEAN WATER NOTEBOOK, SeaLand Technologies, Inc. (October 1994). Additional information regarding the Clean Vessel Act funds administered by IDEM can be found at <http://www.state.in.us/dnr/lakemich/index.htm>.

<sup>44</sup> IC 14-13-3-10.

<sup>45</sup> IC 8-10-5.



following: "(1) Provides a boat ramp without charge for access by Indiana residents to the waters served by the marina. (2) Provides access to marina property without charge for fishing by Indiana residents in the waters served by the marina. (3) Dedicates at least eight percent of the total number of parking spaces at the marina for parking vehicles, including boat trailers, by Indiana residents without charge."<sup>46</sup>

### Boating

Navigation rules for the Great Lakes and other inland waters are governed by federal<sup>47</sup> and state statute.<sup>48</sup> The United States Aids to Navigation System is administered and enforced by the US Coast Guard.<sup>49</sup> The Coast Guard may designate a State Boating Administrator to govern private aids to navigation where not conflicting with federal aids to navigation. The State Boating Administrator in Indiana is located within the DNR Division of Law Enforcement.

In Indiana boating operations are governed primarily by state statute,<sup>50</sup> although federal law also applies to navigable waters. The NRC may adopt rules to restrict the operation of boats where "unusual conditions or hazards exist."<sup>51</sup> Violations of boating statutes and rules may be pursued by any law enforcement officer. Authorities cover activities involving speed limits, water skiing, equipment operation, sewage disposal, racing, safety, accidents, and abandoned watercraft.

Tours of the shoreline and charter boat rides are sometimes available through the charter boat fishing operations. Boats which carry passengers for a fee require a charter boat license.<sup>52</sup>

The DNR is responsible to "[c]arry on a campaign of education with respect to safety in the operation of watercraft and in the use and enjoyment of public waters and with respect to Indiana laws relating to public waters."<sup>53</sup> The responsibility is performed through the DNR's Division of Law Enforcement.

The Division periodically updates INDIANA BOATING LAWS, a compilation of state boating statutes made available in pamphlet form for boaters using Indiana waters.

An online publication developed by the NRC and the Indiana Lake Michigan Coastal Coordination Program is available to help boaters understand the laws applicable to the Indiana waters of Lake Michigan. BOATING ON THE INDIANA WATERS OF LAKE MICHIGAN<sup>54</sup> on the Internet also provides boaters with maps of access points along the coast, aids to navigation symbols, local emergency numbers, and the ten most violated boating laws on Lake Michigan.

In 1995, the Indiana General Assembly enacted legislation for the licensing of a person who operates a motorboat. A "motorboat" is a boat that is equipped with a motor or engine having more than ten horsepower. Included within the definition of a motorboat are a personal watercraft and a sailboat which is equipped with a motor or engine.<sup>55</sup> A person cannot operate a motorboat on public waters unless the person: (1) holds a valid driver's license; (2) is at least 21 years old and holds a valid identification card issued by the Bureau of Motor Vehicles before January 1, 1996; or, (3) is at least 15 years old, has been

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<sup>46</sup> IC 14-13-8-1.

<sup>47</sup> 33 USC 2001, et seq.

<sup>48</sup> IC 14-15-3.

<sup>49</sup> 33 CFR 62.

<sup>50</sup> IC 14-15-3.

<sup>51</sup> IC 14-15-7-3(a)(4).

<sup>52</sup> IC 14-15-6. 310 IAC 2.1-13.

<sup>53</sup> IC 14-15-7-1(2).

<sup>54</sup> <http://www.state.in.us/dnr/boating/>

<sup>55</sup> IC 14-15-11-6.

issued a valid identification card by the Bureau, and has successfully completed a boater education course approved by the DNR.<sup>56</sup>

Boat titling and registration in Indiana is the responsibility of the Bureau of Motor Vehicles.<sup>57</sup> The amount of boat excise tax is established by statute based upon the class and age of motorboats and sailboats.<sup>58</sup> The Indiana boat excise tax is not similar to the structure in other Lake Michigan states.

### **Development of Public Hunting and Fishing Areas**

Fines collected for violations of fish and wildlife laws and special appropriations are placed in the Fish and Wildlife Fund. This fund is used for land acquisition from willing sellers and other activities to protect and propagate game, fish, and birds in Indiana.<sup>59</sup> The NRC may use the power of eminent domain to acquire these lands.<sup>60</sup> The DNR may establish the programs, including the acquisition of land or aquatic habitat, considered necessary for the management of nongame species.<sup>61</sup>

Indiana shares in funding from the Pitman-Robertson Federal Aid to Wildlife Restoration Act.<sup>62</sup> The act provides funding for the purchase of land and water areas which are suitable wildlife habitats, any construction needed to make habitats viable, and wildlife management research. Money for this fund comes from sales taxes on bows, arrows, shells, cartridges, parts, and accessories.<sup>63</sup> Funding from the Indiana Waters Program, mentioned previously in this section, is also available for the development of fishing access on Indiana lakes and rivers.

Indiana has consented to the acquisition of real property by the United States for use as fish hatcheries, wildlife preserves, or forest preserves. The DNR may in turn accept any real property acquired by the United States in this manner or may enter into an agreement with the United States for the administration of the property. "The state retains the exclusive right to regulate the taking, killing, or hunting of wild birds (except migratory birds) or wild animals on real property acquired by the United States" under this authority.<sup>64</sup>

The Indiana Division of Fish and Wildlife Public Access Program was initiated in 1953 to provide free access to Indiana waters at sites that are acquired and maintained with funding from hunting, fishing, and trapping license fees. Recreational boaters and canoeists also benefit from the access program. The program is part of a broader statewide public access initiative. The DNR Divisions of Outdoor Recreation, State Parks and Reservoirs, and Forestry also provide public access facilities. In addition, the Division of Fish and Wildlife works with local, state, and federal agencies to provide access to lakes and rivers. To date, the program has funded 34 public access sites in the Coastal Program Area.

Another method to fund the purchase of property for fish and wildlife management purposes is the Indiana Heritage Trust Program through its Fish and Wildlife Account."<sup>65</sup> In addition to license plate

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<sup>56</sup> IC 14-15-11-9.

<sup>57</sup> IC 9-31.

<sup>58</sup> IC 6-6-11.

<sup>59</sup> IC 14-22-3.

<sup>60</sup> IC 14-17-3-1.

<sup>61</sup> IC 14-22-34-14(a).

<sup>62</sup> 16 USC 669a through 669i.

<sup>63</sup> 26 USC 4161 and 26 USC 4181.

<sup>64</sup> IC 14-17-4.

<sup>65</sup> IC 14-26-2-26(4).

sales and other sources of revenue referenced previously as being allocated generally to the program, proceeds from a voluntary fish and wildlife land acquisition fund are allocated specifically to the Fish and Wildlife Account.<sup>66</sup>

### **Preservation of Archaeological and Historical Sites**

The National Historic Preservation Act of 1966 (or “NHPA”) is the central federal historic preservation law.<sup>67</sup> The law establishes the legal and administrative context within which state historic preservation commissions participate in the national historic preservation program. NHPA authorizes the Department of Interior to establish, maintain, and expand a National Register of Historic Places. The National Register is the nation’s roster of properties important in the history, architectural history, archaeology, engineering, and culture of the United States. The National Park Service maintains the National Register.

NHPA provides that states shall establish an Historic Preservation Commission and a State Historic Preservation Officer to assist in its implementation. In Indiana, the Historic Preservation Commission is the Historic Preservation Review Board (or “HPRB”).<sup>68</sup> The State Historic Preservation Officer (or “SHPO”) is the Director of the DNR.<sup>69</sup>

Many of the technical functions of the HPRB and the SHPO are performed through the Division of Historic Preservation and Archaeology within the DNR.<sup>70</sup> Included among these duties are those to: (1) undertake a statewide survey to document and identify historic sites and historic structures; (2) prepare and maintain the State Register; (3) maintain the Indiana part of the National Register; and, (4) administer the federal preservation grants program under 16 USC 470, et seq.<sup>71</sup> The Division of Historic Preservation also administers historic preservation grants through the Hometown Indiana Grant Program.<sup>72</sup>

Any person may present to the DNR the nomination of a site for inclusion on the National Register. Action on the nomination is taken at the state level by the HPRB and forwarded to the National Park Service for final action. Indiana law also recognizes a State Register for the inclusion of sites of state significance, regardless of whether those sites would qualify for the National Register.<sup>73</sup>

Owners of qualified state register listed buildings can claim 20% of the costs of rehabilitation as a state income tax deduction through the Indiana Historic Rehabilitation Tax Credit.<sup>74</sup>

Section 106 of the National Historic Preservation Act<sup>75</sup> requires that the SHPO and the federal Advisory Council on Historic Preservation be allowed to comment on federally funded or permitted projects that might affect National Register listed or eligible items.<sup>76</sup> The Division of Historic Preservation and Archaeology reviews the projects and points out alternatives to projects which might destroy or alter

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<sup>66</sup> IC 14-12-2-35.

<sup>67</sup> 16 USC 470, et seq.

<sup>68</sup> IC 14-21-1-20.

<sup>69</sup> IC 14-21-1-19.

<sup>70</sup> IC 14-21-1-12.

<sup>71</sup> IC 14-21-1-15.

<sup>72</sup> 312 IAC 26-4.

<sup>73</sup> IC 14-21-1-17.

<sup>74</sup> IC 6-3.1-16 and 310 IAC 24-1. Additional information regarding this program and the federal tax credit program can be accessed at <http://www.state.in.us/dnr/historic/gen-info.htm>.

<sup>75</sup> 16 USC 470f and 36 CFR Part 800.

<sup>76</sup> More information about the Section 106 review process implemented by the DNR Division of Historic Preservation and Archaeology can be obtained from <http://www.state.in.us/dnr/historic/sec-106.htm>.

historic places. Unlike other federal agencies, the US Department of Housing and Urban Development (HUD) has delegated its responsibility under Section 106 to local governments that receive Community Development Block Grant funds from HUD, either directly or through grant programs such as the Indiana Department of Commerce's Community Focus Fund (CFF) or one program of the Indiana Housing Finance Authority. Therefore, the local government that receives such a grant bears the responsibility of ensuring that the Section 106 process is completed, usually before the project begins.

A site listed on the National Register, listed on the State Register, or a historic site located on land owned by the State of Indiana cannot be altered, demolished, or removed by a project funded in whole or in part by the State unless the HPRB grants a certificate of approval.<sup>77</sup> Historic sites located on the property of a state college or university follow a somewhat modified process.<sup>78</sup>

In 1989, the Indiana General Assembly supplemented the State's basic historic preservation law to address how private lands can be developed if those lands include human remains buried before 1939 or objects made or shaped by human workmanship before 1816.<sup>79</sup> A permit from the DNR is generally required to disturb the ground for the removal (or to continue the disturbance of the ground following an accidental discovery) of artifacts, burial objects, or human remains.<sup>80</sup> Where artifacts or burial objects are accidental discoveries, the person who makes the discovery is required to immediately cease disturbing the ground and notify the DNR of the discovery within two business days. The DNR may then require a "plan" as a condition to continuing earth work.<sup>81</sup> Exempted from the law are ordinary agricultural practices, the surface collection of artifacts, and cemeteries and human remains regulated under IC 23-14.<sup>82</sup>

The Abandoned Shipwreck Act of 1987<sup>83</sup> authorizes states to exercise authority over shipwrecks to which title has been given up by the owner. As a practical matter, this authority applies to other than the most recent shipwrecks. In Indiana, the Abandoned Shipwreck Act is administered through the Division of Historic Preservation and Archaeology of the DNR.<sup>84</sup> By rule, a person may not remove, disturb, or destroy an abandoned shipwreck without a permit issued by the DNR. A goal of the legislation and state administration is to protect abandoned shipwrecks for historic and recreational purposes, most notably snorkeling and SCUBA diving. The Abandoned Shipwreck Act and the agency rule must be administered with recognition of the role of federal Admiralty Law.<sup>85</sup>

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<sup>77</sup> IC 14-21-1-18.

<sup>78</sup> IC 14-21-1-18.6.

<sup>79</sup> P.L. 175-1989. This enactment followed in the wake of the publicized looting of Native American burial sites in the late 1980s along the Ohio River. See, for example, *Who Owns Our Past?*, NATIONAL GEOGRAPHIC, 376-392 (March 1989).

<sup>80</sup> IC 14-21-1-28 and 29. 310 IAC 20-2-3.

<sup>81</sup> IC 14-21-1-29.

<sup>82</sup> IC 14-21-1-24.

<sup>83</sup> 43 USC 2101.

<sup>84</sup> See primarily 312 IAC 6-3.

<sup>85</sup> *California, et al. v. Deep Sea Research, Inc., et al.*, U.S. (No. 96-1400). See, also, *Ancient Shipwrecks Part I: The Abandoned Shipwreck Act and the Brother Jonathan*, SHORELINES, 3-4 (Summer 1998).

## Matrix 5-6: Cross-reference of Recreation, Access, and Cultural Resources Laws and Guidance Documents

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
Development of Public Park and Recreation Areas				
STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN: Evaluation process conducted on a five year cycle to document resources, needs, and issues regarding recreation across the State.	IC 14-14-2-1  INDIANA LAKE MICHIGAN RECREATIONAL ACCESS GUIDE (1996).	DNR: (1) may prepare, maintain, and keep up to date a comprehensive plan for the development of the outdoor recreation resources of Indiana; and, (2) shall coordinate the department's activities with and represent the interests of all agencies of the state, county, city, and other governmental units.	DNR, Division of Outdoor Recreation 402 W. Washington St., Rm. W271 Indianapolis, IN 46204-2782 (317) 232-4070	Not applicable.
LAND AND WATER CONSERVATION FUND: Reimburses 50% of costs to qualified local entities for the acquisition and development of outdoor recreation areas for public use.	IC 14-14-2-2  STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN (1995-1999)  LWCF MANUAL: GUIDELINES FOR LOCAL AGENCY PARTICIPATION IN THE LAND AND WATER	Detailed criteria for the evaluation of a grant application are identified in the LWCF Manual.	DNR, Division of Outdoor Recreation 402 W. Washington St., Rm. W271 Indianapolis, IN 46204-2782 (317) 232-4070	Not applicable.

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
	CONSERVATION FUND PROGRAM IN INDIANA			
HOMETOWN INDIANA GRANT PROGRAM: Division of Outdoor Recreation is one of three DNR divisions that administer this grant. Recreation purposes eligible for the grant program include acquisition, development, or renovation of a community park or recreation area.	IC 14-12-3  312 IAC 26-3  Hometown Indiana Grant Distributions Nonrule Policy <sup>1</sup>  STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN (1995-1999)	The applicant: (1) must be a municipal corporation which is authorized to acquire, develop, operate, and maintain a community park or recreation area; (2) have current five year park and recreation master plan or other eligible comprehensive plan approved by the department; (3) use the grant to acquire, develop, or renovate a community park or recreation area; (4) have control of the land on which the community park or recreation area project will take place; (5) must operate the community park or recreation area, purchased with grant funds or donated as a local match for grant funds, in perpetuity for public recreation; and, (6) must demonstrate the ability of the municipal corporation to operate and maintain the community park or recreation area after its completion.  Criteria have also been developed by rule to implement a rating system for grant distribution.	DNR, Division of Outdoor Recreation 402 W. Washington St., Rm. W271 Indianapolis, IN 46204-2782 (317) 232-4070	Not applicable.

<sup>1</sup> *Hometown Indiana Grants Program General Distributions*, Information Bulletin #18, Natural Resources Commission, 21 IND. REG. 226 (March 1, 1998).

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
<p>NATURE PRESERVES: Provides permanent protection for significant natural areas in the State.</p>	<p>IC 14-31-1-7</p>	<p>Nature preserves are to be established: (1) for scientific research in fields such as ecology, taxonomy, genetics, forestry, pharmacology, agriculture, soil science, geology, paleontology, conservation, and similar fields; (2) for the teaching of biology, natural history, ecology, geology, conservation, and other subjects; (3) as habitats for plant and animal species and communities and other natural objects; (4) as reservoirs of natural materials; (5) as places of natural interest and beauty; (6) as living illustrations of our natural heritage to be observed and experienced; (7) to promote understanding and appreciation of the esthetic, cultural, scientific, and spiritual values of the areas; and, (8) for the preservation and protection of nature preserves against modification or encroachment resulting from occupation, development, or other use that would destroy the natural or aesthetic conditions of nature preserves.</p>	<p>DNR, Division of Nature Preserves 402 W. Washington St., Rm. W267 Indianapolis, IN 46204 (317) 232-4052</p> <p>Regional Ecologist Jasper-Pulaski Fish and Wildlife Area RR 1, Box 216 Medaryville, IN 47957 (219) 843-5012</p>	<p>IC 14-31-1</p>

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
STATE PARKS: DNR has the general authority to purchase land for the development of a park or scenic area.	IC 14-19-1 310 IAC 5-1 310 IAC 18	(1) A new state park should contain a "relatively extensive area containing scenic, natural, or cultural resources of significant value" that are capable of being reasonably maintained "in their natural condition" and where "opportunities for appropriate types of recreation" can be provided "without destroying or impairing the resources." <sup>2</sup> (2) A small state park shall include between 50 and 500 acres, be adjacent to surface water, be capable of supporting 120 visitors, and provide parking for at least 30 cars. At least 20% of the site must be suitable for the development of facilities such as buildings and parking. The site must have the potential for developing woodland on at least 80% of the land. At least 33 1/3% must be suitable to activities such as cultural arts, historic interpretation, nature interpretation, and trails. <sup>3</sup>	DNR, Division of Parks and Reservoirs 420 W. Washington St., Rm. W298 Indianapolis, IN 46204 (317) 232-4124	Not applicable.

<sup>2</sup> Division of State Parks, Statement of Philosophy (1984).

<sup>3</sup> Correspondence from James M. Ridenour, Director of the Department of Natural Resources, to Members of the Indiana General Assembly (February 6, 1987).



<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
<p>NAVIGABLE WATERWAYS PERMIT PROGRAM: A permit is required for activities that place, fill, or erect a permanent structure in a navigable waterway; or remove water or material from a navigable waterway.</p> <p>Some beach nourishment activities are eligible for a general permit.</p>	<p>IC 14-29-1</p> <p>312 IAC 6</p> <p>Roster of Indiana Waterways Declared Navigable</p> <p>DNR APPLICATION ASSISTANCE MANUAL (1996)</p>	<p>(1) Whether the activity would unreasonably impair the navigability of the waterway; (2) cause significant harm to the environment; or, (3) pose an unreasonable hazard to life or property. In addition, impact of the activity on the “public trust doctrine,” and the likely affect the activity will have on others must be considered.</p> <p>A navigable waterway permit is not required if a permit for the same project has been obtain under IC 14-21-1, IC 14-28-1, IC 14-29-3, IC 14-29-4, IC 14-34, or IC 14-37 and the requirements of the Navigable Waterways Act have been applied in the project review.</p>	<p>DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755</p>	<p>IC 14-29-1</p> <p>312 IAC 6</p>
<p>SAND NOURISHMENT FUND: Authorization for appropriation and use of funding dedicated by the legislature to protect and increase sand along the Indiana Lake Michigan coast.</p>	<p>IC 14-25-12</p>	<p>Funding can be used for: (1) the deposit of sand along the coast of Lake Michigan in Indiana; (2) the design and establishment of systems that cause sand to be deposited along the coast of Lake Michigan in Indiana; and, (3) the prevention or reduction of the degradation of sand along the coast of Lake Michigan in Indiana. The Sand Nourishment</p>	<p>Local state legislator.</p>	<p>Not applicable.</p>

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
		Fund currently has no regular source of revenue.		
WATERCRAFT USE NEAR BATHING BEACHES: Watercraft are regulated for safety and natural resource protection.	IC 14-15-3-17 IC 14-8-2-202.5 IC 14-15-7-3 310 IAC 2.1-7-2 through 4  BOATING ON THE INDIANA WATERS OF LAKE MICHIGAN (1999)	Slower speed limits are designated near shore. Also, swimming-only areas have been established by rule.	DNR, Division of Law Enforcement, District 10 100 W. Water St. Michigan City, IN 46360 (219) 879- 5710	IC 14-15
BATHING BEACH MONITORING: Local county health departments and the National Lakeshore collect and analyze water from bathing beaches weekly for <i>E. coli</i> and fecal coliform during the swimming season. Swimming in the water at bathing beaches can be restricted when water quality does not meet standards set by rule.	327 IAC 2-1.5-8(e)  17 <sup>TH</sup> EDITION OF STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER  Ambient Water Quality Criteria for Bacteria 1986 (EPA 440/5-84-002)	Full body contact may be restricted if water contains more than 235 <i>E. coli</i> per 100 milliliters of water.	Indiana State Department of Health 2 North Meridian St. Indianapolis, IN 46204 (317) 233-1325	Not applicable.
INDIANA RECREATIONAL TRAILS PROGRAM: Reimburses 80% of the cost of eligible projects to all units of government and not-for-profit organizations. Qualified projects include acquisition and development of multi-use recreational trail projects.	Recreational Trails Program Guidelines	Detailed criteria for the evaluation of a grant application are identified in the program guidelines.	DNR, Division of Outdoor Recreation 402 W. Washington St., Rm. W271 Indianapolis, IN 46204 (317) 232-4070	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
TRANSPORTATION ENHANCEMENT PROGRAM: Provides 80% matching assistance to enhance the transportation system and includes trail-related activities.	INDIANA TRANSPORTATION ENHANCEMENT PROGRAM: A GUIDE FOR CITIZENS AND LOCAL GOVERNMENTS (October 1998)	(1) The project must be a transportation project or facility. (2) The project must be adjacent to a site of an existing transportation project or facility. (3) The project must have a positive affect on other transportation systems or facilities	INDOT, Division of Planning and Programming 100 N. Senate Ave. N901 Indianapolis, IN 46204 (317) 232-5224	Not applicable.
HIKE AND BIKE TRAILS, OFF-ROAD VEHICLES TRAILS, AND SNOWMOBILE TRAILS: DNR is authorized to construct and maintain ORV and snowmobile trails on public and private land.	IC 14-16-1 IC 14-16-2  312 IAC 8-2-8 312 IAC 7-1  SCORP 2000	Off-road vehicles and snowmobiles must be registered with the DNR if operated on public land. Revenues generated from registration fees are used to construct and maintain ORV and snowmobile trails.  A snowmobile trail is open only: (1) from December 1 through March 31; (2) if there are at least four inches of snow on the ground; and, (3) if the trail is generally covered with snow. The trails are posted as either open or closed at each trailhead.	DNR, Division of Outdoor Recreation 402 W. Washington St., Rm. W271 Indianapolis, IN 46204-2782 (317) 232-4070  DNR, Division of Law Enforcement, District 10 100 W. Water St. Michigan City, IN 46360 (219) 879-5710	IC 14-16-1  312 IAC 7-1
MARINA PUMPOUTS: Requires marinas to have an approved wastewater treatment facility or on-site disposal system. Prerequisite for construction permit programs when new marina construction is involved. See also the section titled Water Quality.	IC 14-15-2-7  410 IAC 6-10 327 IAC3-2 327 IAC5 312 IAC 6-2-6 312 IAC 6-4-3	A marina is defined by rule as a permanent structure that can service at least five boats at a time and provides, for a fee, engine fuel, docks, boat repair, or boat sales or rental.  No new marina construction is	DNR, Division of Water 402 W. Washington St., Rm. W 264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-15  312 IAC 6

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		permitted by DNR unless the marina operator obtains a permit from IDEM for construction and operation of a wastewater treatment facility or an NPDES permit, or a permit from ISDH for construction of a commercial on-site wastewater disposal facility.		
CLEAN VESSEL ACT PUMPOUT PROGRAM: Administers funding available under the federal Clean Vessel Act to public and private marinas for the construction or renovation of boat sewage pumpout facilities. Rules prohibit boats with water closets or toilets, without proper holding tanks, on public waters.	16 USC 777	Indiana rules prohibit boats with water closets or toilets, without proper holding tanks, on public waters.	IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 233-6801 1-800-451-6027	Not applicable.
WATERCRAFT USE: Boating operations on Lake Michigan and navigable waters are governed by state and federal law.	IC 14-15  310 IAC 2.1  INDIANA BOATING LAWS (1998)  BOATING ON THE INDIANA WATERS OF LAKE MICHIGAN (1999)	Regulated activities include speed limits, water skiing, equipment operation, sewage disposal, racing, safety, accidents, and abandoned watercraft.	DNR, Division of Law Enforcement, District 10 100 W. Water St. Michigan City, IN 46360 (219) 879-5710	IC 14-15  310 IAC 2.1
CHARTER BOAT OPERATIONS: Regulations are set forth to govern boats carrying passengers for a fee such as	IC 14-15-6  310 IAC 2.1-13	(1) The DNR must inspect and register the boat. (2) A certificate of inspection and	DNR, Division of Law Enforcement, District 10	IC 14-15  310 IAC 2.1-13

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
charter boat fishing operations.		registration issued by the DNR must be attached to the boat within the clear view of the passengers.	100 W. Water St. Michigan City, IN 46360 (219) 879-5710	
WATERCRAFT SAFETY AND EDUCATION: The DNR Division of Law Enforcement offers a boater education course several times throughout the year in various counties.	IC 14-15-7-1(2)  INDIANA BOATING LAWS (1998)  BOATING ON THE INDIANA WATERS OF LAKE MICHIGAN (1999)	Boaters ages 11 to adult are encouraged to take the boater education course.	DNR, Division of Law Enforcement 402 W. Washington St., Rm. 255D Indianapolis, IN 46204 (317) 232-4010	Not applicable.
WATERCRAFT OPERATION AUTHORIZATION: A license is required before a person can operate watercraft on public waters.	IC 14-15-11-9	A person cannot operate watercraft on public waters unless the person: (1) holds a valid driver's license; (2) is at least 21 years old and holds a valid identification card issued by the Bureau of Motor Vehicles before January 1, 1996; or, (3) is at least 15 years old, has been issued a valid identification card by the Bureau, and has successfully completed a boater education course approved by the DNR.	Bureau of Motor Vehicles 402 W. Washington St., Rm. W160 Indianapolis, IN 46204 (317) 233-6000  Local license branches.	IC 14-15-11-9
BOAT TITLING AND REGISTRATION: Every motorboat principally used on the waters of Indiana must be registered and numbered. A watercraft that is required to be registered in Indiana must have a certificate of title.	IC 9-31 IC 6-6-11	A motorboat does not have to be registered and numbered if any of the following conditions are met: (1) the motorboat is legally registered in another state and	Bureau of Motor Vehicles 402 W. Washington St., Rm. W160 Indianapolis, IN 46204 (317) 233-6000	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		<p>the motorboat has not been within Indiana for more than 60 consecutive days; (2) the motorboat is from another country temporarily using the waters of Indiana; (3) the motorboat is a ship's lifeboat; and, (4) the motorboat belongs to a class of boats that has been exempted from registration and numbering.</p> <p>Factors indicating that a motorboat will be operated on the waters of Indiana for more than 60 consecutive days and must be registered: (1) the rental or lease for more than 60 consecutive days of a mooring facility that is located on the waters of Indiana for the motorboat; (2) the purchase of a mooring facility that is located on the waters of Indiana for the motorboat; or, (3) any other contractual agreement that allows the use of a mooring facility that is located on the waters of Indiana.</p>	Local license branches.	
Development of Public Hunting and Fishing Areas				
FISH AND WILDLIFE FUND: Accumulation of fines collected for	IC 14-22-3	Money in the fund shall be used for the following purposes:	DNR, Division of Fish and Wildlife	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
violations of fish and wildlife laws. Funds are used to protect and propagate game, fish, and birds.		(1) protecting and propagating game, fish, and birds in Indiana; or, (2) paying the operational expenses of fish and wildlife division and the law enforcement division. Money in the fund that is attributable to money deposited under IC 33-19-7-5 shall be used to administer the Turn In a Poacher program established and the reward system established under the program.	402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	
LAND ACQUISITION: Land acquisition is authorized in several statutes pertaining to resources issues.	IC 14-17-3-1 IC 14-22-3 IC 14-22-34-14(a)	Funding may be used for sites to protect and propagate game or to acquire land or aquatic habitat for nongame species.	DNR, Division of Land Acquisition 402 W. Washington St., Rm. W 255A Indianapolis, IN 46204 (317) 232-4050	Not applicable.
FISH AND WILDLIFE ACCOUNT: An element of the Indiana Heritage Trust Program the Account includes proceeds from a voluntary fish and wildlife land acquisition fund to purchase property for fish and wildlife management.	IC 14-12-2-26	Money in this account may be used only to purchase property for fish or wildlife management purposes.	DNR, Division of Fish and Wildlife 402 W. Washington St., Rm. W 273 Indianapolis, IN 46204 (317) 232-4080	Not applicable.
Preservation of Archaeological and Historical Sites				
NATIONAL REGISTER OF HISTORIC PLACES: An identification of the nation's important historical properties. DNR Division of Historic Preservation and	IC 14-21-1-15 through 18.6  GUIDEBOOK FOR	Properties must meet one of the four criteria. (1) properties associated with events that were important within the broad	DNR, Division of Historic Preservation and Archaeology 402 W. Washington St.,	IC 14-21-1-15 through 18.6

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
<p>Archaeology accepts nominations for sites in Indiana to be included in the Register. Once a site is listed, it is protected from any disturbing activities unless the activities are approved by DNR.<sup>4</sup></p> <p>The State Register of Historic Places also recognizes important properties in the history of Indiana. Once a site is listed, it is protected from any disturbing activities unless the activities are approved by DNR.</p>	<p>INDIANA HISTORIC SITES AND STRUCTURES INVENTORY: ARCHAEOLOGICAL SITES (1989)</p>	<p>patterns of American history can qualify; (2) properties associated with the lives of persons significant in our past can qualify; (3) buildings, structures or objects that possess architectural or engineering importance can qualify for listing; or, (4) resources that have, or may yield important information in prehistory or history are eligible.</p> <p>In addition, a property must also have integrity -a measure of authenticity based on the time period of the property's importance. Seven qualities are evaluated: location, design, setting, materials, workmanship, feeling, and association.</p> <p>Certain properties such as museum artifacts, cemeteries, birthplaces or graves of historical figures, religious properties, moved structures, reconstructions, or commemorative monuments, properties less than 50 years old are generally not eligible.</p>	<p>Rm. W 274 Indianapolis, IN 46204 (317) 232-1646</p>	

<sup>4</sup> Criteria and listing procedures for the National Register of Historic Places can be found at <http://www.state.in.us/dnr/historic/>



Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
		However, they may qualify if they are part of historic districts or meet one of the criteria exceptions.		
ARTIFACTS OR BURIAL OBJECTS: A permit is required to disturb ground, or continue to disturb ground after accidental discovery, for removal of artifacts, burial objects, or human remains.	IC 14-21-1-24 through 29  310 IAC 19 310 IAC 20-2-3	Before a permit is granted, a plan which includes information required under 310 IAC 20-3-2 through 310 IAC 20-3-8, must be submitted with the permit application. The following factors must be present before a permit can be issued: (1) the application is found to be complete, technically accurate, and feasible; (2) the applicant has demonstrated that the information derived will contribute to Indiana's history or archaeology; or understanding the physical or cultural nature of past human populations; (3) the requirements of 310 IAC 20-3-9 are satisfied; (4) the applicant will provide for the treatment of human remains according to Indiana rules; and, (5) the rights and interests of landowners are considered, including written documents demonstrating that (A) determination of the ownership of any human remains, burial object, or artifact which is recovered. (B) Consent of the landowner for	DNR, Division of Historic Preservation and Archaeology 402 W. Washington St., Rm. W274 Indianapolis, IN 46204 (317) 232-1646	IC 14-21-1-24 through 29  310 IAC 19 310 IAC 20

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		<p>access by the applicant to the site for the purpose of conducting any activities set forth in the permit, including the plan.</p> <p>(C) Consent of the landowner for access by the department to the site to determine compliance with the conditions of the permit.</p> <p>Exemptions include ordinary agricultural practices, the surface collection of artifacts, and cemeteries and human remains regulated under IC 23-14.</p>		
SHIPWRECKS: A permit is required before a person removes or disturbs an abandoned shipwreck.	IC 14-21-1 312 IAC 6-3	An applicant must: (1) provide the location of the abandoned shipwreck; and, (2) identify how the applicant determined: (A) the abandoned ship is not located at a historic site; and, (B) that the proposed activity: does not otherwise violate IC 14-29-1-8; or is subject to the exclusive jurisdiction of a federal court or federal agency.	DNR, Division of Historic Preservation and Archaeology 402 W. Washington St., Rm. W 274 Indianapolis, IN 46204 (317) 232-1646	IC 14-21-1 312 IAC 6-3
INDIANA CULTURAL RESOURCES MANAGEMENT PLAN <sup>5</sup> : Includes strategies designed to improve and promote preservation and archaeology in Indiana.	IC 14-21-1-12(2)	The Division of Historic Preservation and Archaeology shall prepare a preservation plan for the state that establishes planning guidelines to encourage the continuous maintenance and	DNR, Division of Historic Preservation and Archaeology 402 W. Washington St., Rm. W 274 Indianapolis, IN 46204	IC 14-21-1

<sup>5</sup> The plan can be viewed at <http://www.state.in.us/dnr/historic/>.

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
		integrity of historic sites and historic structures. The plan is not effective until the plan has been presented to the advisory council for review and comment and approved by the review board after public hearing.	(317) 232-1646	
INDIANA HISTORIC REHABILITATION TAX CREDIT <sup>6</sup> : Owners of qualified state register listed buildings can claim 20% of the costs of rehabilitation as a state income tax deduction.	IC 6-3.1-16 310 IAC 24-1	To qualify for the certifications required for the state historic rehabilitation tax credit, an applicant must demonstrate to the division each of the following: (1) the historic property is listed on the register; (2) the historic structure which is the subject of rehabilitation contains at least 2,000 gross square feet on the ground floor; (3) the historic structure is at least 50 years old; (4) the activity sustains vegetative cover of the property in a way which preserves its significance to the property. Preservation of a vegetative cover that does not contribute to the significance of the property cannot be included in the qualified expenditure calculation; and, (5) Preservation or rehabilitation is performed in accordance with a plan approved by the division by rule.	DNR, Division of Historic Preservation and Archaeology 402 W. Washington St., Rm. W 274 Indianapolis, IN 46204 (317) 232-1646	Not applicable.

<sup>6</sup> Additional information regarding this program and the federal tax credit program can be accessed at <http://www.state.in.us/dnr/historic/gen-info.htm>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
INDIANA HISTORIC SITES AND STRUCTURES INVENTORY: DNR identifies and records all potentially important historic buildings, bridges, sites, and other items on inventory forms and enters them in computer databases. Results are published in Interim Report books.	GUIDEBOOK FOR INDIANA HISTORIC SITES AND STRUCTURES INVENTORY: ARCHAEOLOGICAL SITES (1989)	Detailed criteria for the inclusion of the sites and structures are included in the Guidebook.	DNR, Division of Historic Preservation and Archaeology 402 W. Washington St., Rm. W 274 Indianapolis, IN 46204 (317) 232-1646	Not applicable.
SECTION 106 REVIEW: State review of federally funded or permitted projects to protect historic sites.	IC 14-21-1-18  INDIANA HISTORIC SITES AND STRUCTURES SURVEY MANUAL	Federally funded programs or construction projects which might affect National Register listed or other eligible items in Indiana must be reviewed by the Division of Historic Preservation and Archaeology. State agencies are mandated to seek approval from the division for projects which might affect state-owned historic properties.	DNR, Division of Historic Preservation and Archaeology 402 W. Washington St., Rm. W 274 Indianapolis, IN 46204 (317) 232-1646	Not applicable.
HOMETOWN INDIANA GRANT PROGRAM: Division of Historic Preservation and Archaeology is one of three DNR divisions that administer this grant. Recreation purposes eligible for the grant program include acquisition, development, or renovation of a community park or recreation area.	IC 14-12-3  312 IAC 26-4  Hometown Indiana Grant Distributions Nonrule Policy <sup>7</sup>	(1) The applicant must be a municipal corporation or a corporation that has no affiliation with religion. (2) The property must be listed in the Indiana State Register of Historic Sites and Structures. (3) The project must meet the professional standards in architecture, history, and archaeology by rule. (4) The project must provide for the acquisition, protection,	DNR, Division of Historic Preservation and Archaeology 402 W. Washington St., Rm. W 274 Indianapolis, IN 46204 (317) 232-1646	Not applicable.

<sup>7</sup> *Hometown Indiana Grants Program General Distributions*, Information Bulletin #18, Natural Resources Commission, 21 IND. REG. 226 (March 1, 1998).

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
		<p>stabilization, preservation, rehabilitation, restoration, or archaeological investigation of the property. (5) The applicant must demonstrate that there are adequate provisions, including sufficient identified sources of funds, to ensure that the property will be adequately operated and maintained.</p> <p>(6) A portion of the facilities on the property to be maintained must be open to the public or maintained for public benefit. (7) The property must be owned or controlled by the applicant upon performance of the project.</p>		

## Section 5-7: Economic Development

The industrial revolution has had a profound effect on Northwest Indiana. Train car construction in Michigan City, petroleum refining in Whiting, steel production in East Chicago and Gary, then later in Portage, and the related industrial and commercial growth have left indelible marks on the physical and social environment.

One negative impact of industrialization which predated environmental controls is site degradation. In some instances, expensive clean-ups are required. “Brownfields” exist where sites are abandoned or no longer enjoy full economic utility. Technical and financial means are needed which will encourage their return to productivity. Standards are needed to determine when a degraded site receives sufficient environmental remediation.

The transportation network in the Lake Michigan region is vital to support commercial and industrial needs. Harbors along the coast link Indiana to other ports in the Great Lakes and the world. Industries and communities are linked together by the Chicago South Shore and South Bend Railroad, Interstates 80/90 and 94, and US Highways 12, 20, and 30. A regional airport in Gary provides access to air routes.

“Sustainable development” has become a commercial and social goal. A healthy infrastructure is sought which will include dependable highways, railways, and waterways. Tourism presents new opportunities, with increasing interests in boating, parks, and casino gaming.

A sound, viable, and progressive economy is an essential element of the Lake Michigan region. The commercial and industrial advantages provided by the Lake’s economic resources are important to the region and to the State. As growth and redevelopment fuel Northwest Indiana’s economy, the State provides both assistance and governance to encourage productive and environmentally sound practices. This section outlines laws, financial packages, and technical assistance that are implemented in the coastal area and associated with economic development.

### Managed Activities

- Ports and adjacent Development, maintenance, and expansion.
- Siting and developing major energy facilities.
- Storing and transporting energy resources.
- Planning, constructing, and maintaining transportation facilities.
- Brownfield redevelopment and associated remediation.

### Background

On the state level, an agency primarily concerned with the commercial health of the State has long been an integral part of Indiana government. The Department of Commerce and Industry was established during the Great Depression.<sup>1</sup> The agency became the Department of Commerce, Agriculture, Industry and Public Relations shortly after World War II.<sup>2</sup> This agency was in turn replaced 20 years later by the Department of Commerce, the duties of which included a study of the “long-range economic and

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<sup>1</sup> Ind. Acts of 1933, Ch. 3.

<sup>2</sup> Ind. Acts of 1945, Ch. 166.

developmental needs of the state.”<sup>3</sup> In 1982, the agency was placed under the Lt. Governor.<sup>4</sup> The Indiana General Assembly then declared the proper function of the agency was “to provide for the orderly economic development and growth of the state.”<sup>5</sup>

Economic development in Northwest Indiana is a concept that has been closely tied to Lake Michigan and to its availability as a source of abundant water and ready transportation. In 1852, the Indiana General Assembly passed a resolution seeking a federal appropriation for a Michigan City Harbor.<sup>6</sup> Legislation enacted in 1907 authorized the issuance of land patents for portions of Lake Michigan filled by riparian owners. The stated purpose of the legislation was to encourage the placement of docks, wharves, and similar facilities “for industrial, manufacturing, trade, commercial and public purposes; and in aid of manufacturing, trade, commerce and navigation.”<sup>7</sup> A concurrent resolution adopted in 1921 supported state association with the Great Lakes-St. Lawrence Tidewater Association in order to help “make the Great Lakes accessible to ocean going commerce” and to “bring the State of Indiana hundreds of miles nearer the world’s markets.”<sup>8</sup>

## **Implementation of Management Techniques**

### **Ports and Adjacent Development, Maintenance, and Expansion**

The Indiana Port Commission may construct, maintain, and operate “public ports with terminal facilities and traffic exchange points for all forms of transportation, giving particular attention to the benefits which may accrue to the State and its citizens from the St. Lawrence Seaway and to issue port revenue bonds of the State payable solely from revenues, to pay the cost of such projects.”<sup>9</sup> Among its powers are those to acquire and develop real estate to operate a port and to establish rules for its usage. The commission may acquire tug boats, locomotives, and other vehicles to carry passengers and goods. The commission may set fees and tolls, control ingress and egress from its ports, enter contracts for services,<sup>10</sup> exercise the power of eminent domain,<sup>11</sup> and seek the status of a “foreign trade zone.”<sup>12</sup> Burns International Harbor, also referred to as the “Port of Indiana at Burns Harbor,” is operated by the Indiana Port Commission under this statutory authority.

In Lake County, a municipal corporation, the county, or a combination may form a port authority. The port authority may: (1) purchase, operate, or lease facilities such as docks, wharves, or warehouses within its jurisdiction; (2) “straighten, deepen, and improve” waterways for the development of port facilities; (3) establish dock lines, piers, and related facilities; (4) regulate activities within the port “and determine the use of land adjacent to waters under jurisdiction of the port authority;” (5) acquire, hold, and lease property for port purposes; (6) enter lease agreements for natural or mineral resources within the land it owns; (7) seek the establishment of “foreign trade zones;” (8) exercise the power of eminent domain; (9) accept moneys; (10) maintain needed funds; (11) make needed surveys; (12) sell or lease real or personal property and grant easements; and, (13) promote and advertise the port.<sup>13</sup>

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<sup>3</sup> Ind. Acts of 1965, Ch. 262.

<sup>4</sup> Ind. Acts of 1982, P.L. 15, §2. Currently codified at IC 4-4-3-2.

<sup>5</sup> Ind. Acts of 1982, P.L., §5. Currently codified at IC 4-4-3-7.5.

<sup>6</sup> Ind. Acts of 1852, Ch. 13.

<sup>7</sup> Ind. Acts of 1907, Ch. 91.

<sup>8</sup> Ind. Acts of 1921, Ch. 294.

<sup>9</sup> IC 8-10-1-1.

<sup>10</sup> IC 8-10-1-7.

<sup>11</sup> IC 8-10-1-11.

<sup>12</sup> IC 8-10-3.

<sup>13</sup> IC 8-10-5-8.

Harbor dredging is critical to the shipping industry's productivity. The ACOE is responsible for maintaining federal navigable harbors in the Great Lakes. The federal harbors along the Indiana shoreline include Michigan City, Burns International Harbor, Burns Small Boat Harbor, the Indiana Harbor and Ship Canal, and the Calumet Harbor.<sup>14</sup> IDEM regulates discharges of dredged materials into Indiana waters under the Section 401<sup>15</sup> water quality certification program. Certification must be obtained before an individual disposes of dredged material into waters of the State.

The removal of sand or gravel from a navigable waterway requires a DNR permit under the Navigable Waters Act.<sup>16</sup> A royalty fee is charged for the removal of materials dredged from the bed of Lake Michigan based on the amount of material removed.<sup>17</sup> The fee is waived if the suitable dredged material is used for beach nourishment along the Lake Michigan shoreline.<sup>18</sup>

Representatives of IDEM and the Indiana Port Commission participate on the Great Lakes Dredging Team. In 1993, the Secretary of Transportation convened an Interagency Working Group on the Dredging Process. Agencies involved in the working group included the ACOE, NOAA, FWS, U.S. Department of Transportation, and the EPA. The group conducted a series of public outreach meetings across the country in order to develop a new National Dredging Policy. In order to enhance the coordination in the dredging project approval process, the working group recommended the establishment of both National and Regional Dredging Issue Teams. The National Team is co-chaired by the ACOE and the EPA and includes representatives from the Departments of Transportation, Interior, and Commerce and oversees the resolution of problems identified by the regional teams.

Riverboat gambling is authorized in Lake and LaPorte Counties<sup>19</sup> "to benefit the people of Indiana by promoting tourism and assisting economic development."<sup>20</sup> The activity is regulated by the Indiana Gaming Commission through a permitting system designed to "promote the most economic development in a home dock area" in a manner that best serves the interests of the citizens. The commission is authorized to develop "standards for the design, appearance, aesthetics, and construction for riverboats and facilities."<sup>21</sup> Each riverboat operator is required to report upon the status of economic development activities that the operator agrees to perform, and failure to make satisfactory progress toward any element of this obligation can result in disciplinary action by the gaming commission.<sup>22</sup> A tax of \$3 is imposed on admissions to gambling excursions, of which \$1 is allocated to the city and ten cents is allocated to the convention bureau for the county in which the riverboat is located.<sup>23</sup> In addition, 5% of adjusted gross receipts from gambling games is distributed to the city that is the home dock.<sup>24</sup> Riverboats are placed on navigable waterways at sites determined in consultation with the ACOE to be suitable for operation.<sup>25</sup>

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<sup>14</sup> Communication with Scott Vowinkel of the Army Corps May 27, 1999. The Calumet Harbor is considered by the Army Corps to be part of both Indiana and Illinois.

<sup>15</sup> 33 USC 1341.

<sup>16</sup> IC 14-29-3.

<sup>17</sup> IC 14-29-3-2.

<sup>18</sup> 312 IAC 6-5-8(b).

<sup>19</sup> IC 4-33-1-1. Riverboat gambling is also authorized by this section in counties contiguous to the Ohio River and in counties contiguous to Patoka Lake.

<sup>20</sup> IC 4-33-1-2.

<sup>21</sup> IC 4-33-4-1.

<sup>22</sup> 68 IAC 1-3.

<sup>23</sup> IC 4-33-12-6.

<sup>24</sup> IC 4-33-13.

<sup>25</sup> IC 4-33-1-13.



The owner of real property, or the owner of an easement for public park purposes through real property, that borders Lake Michigan may seek a permit from the DNR to fill an adjacent portion of the lake. Hazardous waste cannot be disposed on an area for which a fill permit is approved. After grant of the permit and the approval of a survey and plat by the county surveyor, and the payment of \$100 per acre, a person may obtain a land patent for the filled area.<sup>26</sup> This statutory authority does not, however, exempt an applicant from obtaining other needed approvals for filling navigable waters, waters of the United States, or waters of the State. Under former law, the DNR was required to approve any application from a property owner adjacent to Lake Michigan.<sup>27</sup> In 1990, approval of a permit by the DNR was made subject to its discretion, and no permit has been granted to a private riparian owner since the DNR was granted this discretion.<sup>28</sup>

### **Siting and Developing Energy Facilities**

Energy facilities are sited under the regulation and direction of the Indiana Utility Regulatory Commission (IURC) and the Indiana Recycling and Energy Development Board (IREDB). Generally, before an energy facility is sited, public hearings must be held and certifications received demonstrating that relevant state regulations were followed. For example, before a public utility could begin construction for a new electricity generating facility, the utility must obtain a certificate of convenience and necessity from the IURC.<sup>29</sup> The certification assures the IREDB that the IURC has been provided with the necessary analysis of electricity need and has determined that construction of a new electricity generating facility is necessary and will add to the convenience of the Indiana public.

All energy facilities and all construction of new energy facilities must adhere to Indiana environmental laws and rules including water quality standards and rules prohibiting the discharge of contaminants into “waters of Indiana” or onto land. For example, a person must not drain or dispose of matter “that causes or contributes to a polluted condition of any waters” of the State.<sup>30</sup> IDEM may take appropriate steps to prevent pollution “that is determined to be unreasonable and against public interests in view of the condition in any stream or other waters of Indiana.”<sup>31</sup> Hazardous materials must be stored and transferred in a manner that will prevent their release from entering surface water or groundwater.<sup>32</sup> Exempted are above ground storage tanks used to store oils or petroleum products that have a capacity of no more than 660 gallons.<sup>33</sup>

The IURC is responsible for developing, publicizing, and keeping current an analysis of the long-range needs for the expansion of electric generating facilities. The analysis includes: (1) an estimate of the probable future growth of the use of electricity; (2) the probable need for generating reserves; (3) the optimal size and mix and “general location” of generating plants; optimal arrangements for statewide or regional pooling of power and arrangements with other utilities and energy suppliers “to achieve maximum efficiencies for the benefit of the people of Indiana;” and, (4) the comparative costs of meeting future growth by means of providing effective electric service, including the purchase or joint ownership of power. The IURC must submit its analysis to the Governor and the Indiana General Assembly on an annual basis.<sup>34</sup>

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<sup>26</sup> IC 14-18-6.

<sup>27</sup> Ind. Acts of 1907, Ch. 91 and Ind. Acts of 1915, Ch. 190.

<sup>28</sup> Ind. Acts of 1990, P.L. 22. Formerly IC 4-18-13 (repealed). See now IC 14-18-6.

<sup>29</sup> IC 8-1-8.5-2 and 5.

<sup>30</sup> IC 13-18-4-5.

<sup>31</sup> IC 13-18-4-4.

<sup>32</sup> IC 13-18-5-1.

<sup>33</sup> IC 13-18-5-2(3).

<sup>34</sup> IC 8-1-8.5-3.

The IREDB is a 13-member “public instrumentality of the state” which includes representation from energy related industries and Indiana universities with expertise in recycling or energy research and development.<sup>35</sup> The IREDB is directed to encourage the “balanced use of all sources of energy” but with primary emphasis upon use of Indiana’s high sulfur coal and Indiana’s agricultural and forest resources to produce alcohol fuel.<sup>36</sup>

In determining long-term needs for electric generating facilities, the IURC looks to regional and national interests as well as State and local interests. The IURC must “confer and consult” with the Federal Energy Regulatory Commission and with utility commissions or comparable agencies of neighboring states.<sup>37</sup>

To assist the IURC in administering the Utility Powerplant Construction Act,<sup>38</sup> beginning in 1995 utilities were required to prepare on a biennial basis an “integrated resource plan” or “IRP.” The IRP is an assessment of a variety of demand-side and supply-side resources to cost-effectively meet customer electricity service needs. The IRP may include a public participation procedure and an analysis of the uncertainty and risk posed by different resources and external factors. The plan provides a 20-year period for energy and demand forecasts. The IRP must include probable energy and peak demand forecasts based on a combination of alternative assumptions, including rate of change in population, economic activity, behavioral factors affecting customer consumption, state and federal energy policies, and state and federal environmental policies.<sup>39</sup>

In addition, the IURC is required to maintain a “permanent forecasting group to be located at a state-supported college or university within Indiana.” The group must develop and keep current a methodology for forecasting the probable future growth of the use of electricity within Indiana and within “this region of the nation.” The forecasting group must solicit input from residential, commercial, and industrial consumers and the electric industry.<sup>40</sup>

Notice of public hearings conducted by the IURC must be published in two newspapers of general circulation in the county “wherein reside patrons or customers of the public utility who might be affected by an order” of the IURC. In addition, the IURC mails notice of the hearing to persons with competitive interests and to any affected city or town.<sup>41</sup>

A hearing process is also established to consider a complaint by municipalities, commercial associations, or citizens against a public utility concerning rates, safety, the adequacy of service, or discrimination. The IURC shall hold a public hearing on the complaint, and if it fails to do so, the complainant may seek an action for mandate with the Indiana Court of Appeals.<sup>42</sup>

Another notable participant in assuring adequate public participation is the Office of the Utility Consumer Counselor (the “Consumer Counselor”). The Consumer Counselor is provided broad discretion to appear in matters before the IURC, and other state and federal regulatory agencies, “on behalf of ratepayers,

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<sup>35</sup> IC 4-23-5.5-2.

<sup>36</sup> IC 4-23-5.5-6 and 55 IAC 2-1-2.

<sup>37</sup> IC 8-1-8.5-3(d).

<sup>38</sup> IC 8-1-8.5.

<sup>39</sup> 170 IAC 4-7.

<sup>40</sup> IC 8-1-8.5-3.5.

<sup>41</sup> IC 8-1-1-8.

<sup>42</sup> IC 8-1-2-54 and IC 8-1-2-54.1.

consumers, and the public.” The Consumer Counselor maintains a separate staff and may call its own witnesses at hearings.<sup>43</sup>

Two other enactments are also pertinent to public participation: those applicable to public records and those applicable to public hearings. Most records of state and local agencies are subject to public access. The general principle is that a person may inspect and copy public records during regular business hours.<sup>44</sup> This statutory chapter must be “liberally construed” to implement the legislative policy that the public is entitled to full information regarding governmental affairs, and “the burden of proof for nondisclosure of a public record” is on the agency to deny access.<sup>45</sup> These provisions are explicitly applicable to the records of the IURC.<sup>46</sup>

### **Storing and Transporting Energy Resources**

FERC regulates the siting, construction, and operation of interstate gas pipelines, as well as the pipeline transportation rate. Companies providing services and constructing and operating interstate pipelines must obtain certificates of public convenience and necessity from FERC.<sup>47</sup>

The federal Department of Transportation regulates the safety aspects of interstate gas pipelines.<sup>48</sup> The IURC and the DOT jointly fund the Pipeline Safety Division, the state agency that administers federal and state pipeline safety standards.<sup>49</sup> The IURC sets state safety standards for the transportation of gas and related pipeline facilities. The standards must be no less stringent than federal standards. Minimum safety standards for the transportation of gas, and for related pipeline facilities, are developed by rule. The IURC has incorporated federal safety standards into the rule.<sup>50</sup> The standards address design, installation, inspection, testing, construction, extension, operation, replacement, and maintenance. Any person who transports, owns, operates, or leases pipeline facilities must annually certify to the Pipeline Safety Division that it has complied with federal safety standards. If a gas pipeline is determined to be “hazardous to human life or property,” the Pipeline Safety Division may order the owner or operator to remove the hazard. The IURC may issue an order without hearing where a pipeline defect presents an emergency.<sup>51</sup>

Major petroleum pipelines in Indiana’s coastal area transport petroleum interstate and are regulated by the federal government. Safety standards for interstate petroleum pipelines are set forth in the Accountable Pipeline Safety and Partnership Act, 49 USC 60101 et seq. These standards are enforced by the U.S. Department of Transportation.<sup>52</sup> Rates for interstate pipeline carriers of petroleum are set by FERC under Section 1 of the Interstate Commerce Act, 49 App USC 1 et seq (1988). Construction of a pipeline in or under navigable waters requires a permit from the ACOE.<sup>53</sup>

Indiana requires a permit for the placement of any structure, including pipelines for the transportation of any gaseous, liquid, or slurry substance in a floodway or navigable water.<sup>54</sup> Qualified new pipeline

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<sup>43</sup> IC 8-1-1.1.

<sup>44</sup> IC 5-14-3.

<sup>45</sup> IC 5-14-3-1.

<sup>46</sup> IC 8-1-2-29.

<sup>47</sup> Natural Gas Act, 15 USC 717 et seq.

<sup>48</sup> 49 USC 60101 et seq.

<sup>49</sup> IC 8-1-22.5-3.

<sup>50</sup> 170 IAC 5-3.

<sup>51</sup> IC 8-1-22.5-4.

<sup>52</sup> 49 USC 60101, et seq.

<sup>53</sup> Section 10 of the Rivers and Harbors Act, 33 USC 403.

<sup>54</sup> IC 14-28-1 and IC 14-29-1.

crossings which are placed in a manner unlikely to have a significant environmental impact may be placed according to a general permit or exempted entirely from permitting.<sup>55</sup>

The Port of Indiana handles and transports petroleum products as part of its normal course of business. When petroleum products are transported, the regulations of the US Coast Guard apply. Region 9, headquartered in Cleveland, Ohio, has the responsibility and the authority for inspecting and enforcing vessels in the Indiana coastal area to ensure legal requirements are met for the transport and transfer of petroleum. Contingency plans for a release of oil or other hazardous substances into Lake Michigan and along the coastal area have been prepared. Information regarding these contingency plans is included in the Section 5-8: Pollution Prevention, Recycling, Reuse, and Waste Management.

A person wishing to transport gas for sale or delivery within Indiana must obtain a certificate of necessity from the IURC. Any interested person may appear and offer evidence either in support of or opposition to the application.<sup>56</sup>

### **Planning, Constructing, and Maintaining Transportation Facilities**

INDOT is the state agency primarily responsible for administering transportation facilities.<sup>57</sup> INDOT is responsible<sup>58</sup> for: (1) the identification, development, coordination, and implementation of the State's transportation policies; (2) the approval of applications for federal transportation grants from funds allocated to Indiana under the Highway Trust Fund,<sup>59</sup> the Aviation Trust Fund,<sup>60</sup> through the federal Transit Administration,<sup>61</sup> and from any other federal grant that has a transportation component; (3) the review and adoption of budget proposals; (4) the construction and maintenance of state highways and the Indiana Toll Road; and, (5) the administration of programs pertaining to railroads,<sup>62</sup> rail preservation,<sup>63</sup> aeronautics,<sup>64</sup> airports,<sup>65</sup> and the aviation development program.<sup>66</sup> INDOT performs long-range planning to "assure the orderly development and maintenance of an efficient statewide system of transportation."<sup>67</sup>

The highway and street system of Indiana consists of a state highway system, a county arterial highway system in each county, a county local highway system in each county, a municipal arterial system in each municipality and a municipal local street system in each municipality.<sup>68</sup> The Motor Vehicle Highway Account Act is designed to provide "a fair distribution" of funding among state and local governments to the maintenance of the highway and street system.<sup>69</sup>

The Transportation Enhancement Program is a federal assistance matching program administered by INDOT. Eligible projects include: (1) provision of facilities for pedestrians and bicyclists; (2) acquisition of scenic easements and scenic or historic sites; (3) scenic or historic highway programs, including tourist

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<sup>55</sup> 310 IAC 6-1-16 through 310 IAC 6-1-19.

<sup>56</sup> IC 8-1-2-87.5.

<sup>57</sup> IC 8-23.

<sup>58</sup> IC 8-23-2-4.1.

<sup>59</sup> 23 USC.

<sup>60</sup> 49 USC.

<sup>61</sup> 49 USC 1601, *et seq.*

<sup>62</sup> IC 8-3-1.

<sup>63</sup> IC 8-3-1.5.

<sup>64</sup> IC 8-21-1.

<sup>65</sup> IC 8-21-9.

<sup>66</sup> IC 8-21-11.

<sup>67</sup> IC 8-23-2-5.

<sup>68</sup> IC 8-23-4-1.

<sup>69</sup> IC 8-14-1.

and welcome center facilities; (4) landscaping and other scenic beautification; (5) historic preservation; (6) rehabilitation and operation of historic transportation buildings, structures, or facilities, including historic railroad facilities and canals; (7) preservation of abandoned railway corridors, including the conversion and use for pedestrian or bike trails; (8) control and removal of outdoor advertising; (9) archaeological planning and research; (10) environmental mitigation to address water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity; (11) provision of safety and educational activities for pedestrians and bicyclists; and, (12) establishment of transportation museums.<sup>70</sup>

The enhancement program is based on a cooperative working arrangement involving INDOT, the Metropolitan Planning Organizations (MPO), the Indiana Department of Commerce (IDOC), DNR, the Association of Indiana Counties, and the Indiana Association of Cities and Towns. This Committee evaluates and prioritizes the enhancement projects and prepares a list of recommended projects for consideration by INDOT.

The Indiana Toll Road (I 80/90) spans northern Indiana from the Indiana-Ohio State border to the Indiana-Illinois State border. The Toll Road Division of INDOT is responsible for construction, maintenance, repair, and operation of the Indiana Toll Road projects within Indiana. Responsibilities of the division include formulating, developing, and recommending a continuing long-range toll road plan and short-term improvement programs, and communicating planning information to the public, interested agencies, and organizations.<sup>71</sup>

The Public Mass Transportation Fund (PMTF) is a state fund that receives 0.76% of the state sales and use tax. Eligible recipients are those that receive funds from the Federal Transit Act, or that provide public transportation in Indiana. These funds are allocated on a calendar year basis using a performance-based formula. Data used to compute formula allocations include services area population, passenger trips, total vehicle miles, and locally derived income data. The NICTD receives a 12.34% set-aside of the funding due to its operation as a commuter rail service.<sup>72</sup>

Because the coastal area includes urban areas with populations over 50,000, a metropolitan planning organization assists with transportation planning. The Northwestern Indiana Regional Planning Commission (NIRPC) was established in 1965 to bring multi-county planning to the region. NIRPC functions include assistance with transportation planning and development.<sup>73</sup>

A network of Electric Interurban Railways started underway in the early 1900s, spanning the eastern and mid-western states. The South Shore Line had humble beginnings in 1903 as "The Chicago & Indiana Air Line Railway," a streetcar operator between Indiana Harbor and East Chicago. The Chicago South Shore and South Bend Railroad, providing service to commuters from South Bend to downtown Chicago is the last of this once vast network of electric interurbans.

In 1977 the Indiana General Assembly established the Northern Indiana Commuter Transportation District (NICTD).<sup>74</sup> The District was established to be a recipient of federal and state grants made for the purpose of renewal of the rolling stock and support facilities of the commuter passenger service then

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<sup>70</sup> Indiana Department of Transportation, Indiana Transportation Enhancement Program: A Guide for Citizens and Local Governments (October 1998).

<sup>71</sup> This information was obtained from [http://www.state.in.us/dot/div\\_toll\\_road.html](http://www.state.in.us/dot/div_toll_road.html).

<sup>72</sup> This information was obtained from [http://www.state.in.us/dot/intermodal/public/tran\\_3.htm](http://www.state.in.us/dot/intermodal/public/tran_3.htm). In addition, information was obtained from the Public Mass Transportation Fund Program Management Plan available through INDOT by calling (317) 232-1495.

<sup>73</sup> *The Environment of Northwest Indiana, Contrasts and Dilemmas, A Special Report* (PAHLS, Inc. 1993).

<sup>74</sup> IC 8-5-15.

being operated by the Chicago South Shore and South Bend Railroad, and to act as owner and lessor of any new rolling stock and facilities. In addition NICTD was qualified to receive federal and state monies intended for the financial assistance of the operations of the passenger service, and charged with setting fares and attracting new riders.<sup>75</sup>

Cargo and high speed railroads criss-cross the coastal area contributing to the vast transportation opportunities available in the coastal area. A railroad company must provide notice to INDOT of its intention to abandon any rights-of-way. INDOT communicates the notice of intent to: (1) county executives, county surveyors, and cities and towns affected; (2) the Department of Commerce; and, (3) the DNR. Within 90 days after receiving notice from INDOT, DNR "shall make a study of the feasibility of converting the right-of-way for recreational purposes." If DNR finds conversion to recreational purposes is feasible, DNR "shall urge the appropriate state and local authorities to acquire the right-of-way for recreational purposes."<sup>76</sup> This information is summarized by INDOT for all railroads in the State Rail System Diagram Map.<sup>77</sup>

The Industrial Rail Service Fund<sup>78</sup> provides loans to qualified Class III Railroads for the acquisition of railroad rights-of-way or rehabilitation of tracks. Grants can be made from the fund for railroad relocation projects, high-speed rail planning activities, and to municipal port authorities, operating as railroads.

The Grade Crossing Improvement Fund<sup>79</sup> provides two specific grants for public agencies and railroads: (1) assisting local agencies with the required match for federal-aid grade crossing improvement projects; and, (2) assisting local agencies and railroads with improvements of the safety of passive railroad grade crossings

Travel by air also creates economic opportunities in Northwest Indiana. The Aeronautics Section of the INDOT Intermodal Division is responsible for promoting aviation safety throughout the State.<sup>80</sup>

All private- and public-use landing facilities are required to receive a Certificate of Site Approval.<sup>81</sup> Public-use landing facilities receive annual inspections while private-use facilities receive an initial certificate which is valid for the operating life of the facility.

INDOT offers engineering or other technical advice to airport sponsors and local units of government.<sup>82</sup> This assistance may involve either proposed or existing construction, or maintenance or operation of an airport or landing field. Technical assistance provided to local aviation sponsors is designed to: (1) promote the efficient development of local facilities, and (2) bring about a balanced system consistent with the development goals and objectives of the Indiana State Aviation System Plan.

The location and height of structures and the use of land near public-use airports is regulated by INDOT.<sup>83</sup> The Aeronautics Section has several additional responsibilities including planning,

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<sup>75</sup> Additional information on the history of the Chicago South Shore and South Bend Railroad can be found at <http://www.nictd.com/history/nictdhistory.html>.

<sup>76</sup> IC 8-3-1-21.1.

<sup>77</sup> This information was obtained from <http://www.state.in.us/dot/intermodal/rail/rail4.htm>.

<sup>78</sup> IC 8-3-1.7.

<sup>79</sup> IC 8-6-7.7.

<sup>80</sup> Information regarding the Aeronautics Section of the Intermodal Division INDOT was obtained from <http://www.state.in.us/dot/intermodal/whatwedo.htm>.

<sup>81</sup> 105 IAC 3-3.

<sup>82</sup> IC 8-21-1.

<sup>83</sup> IC 8-21- 10.

developing, and maintaining airports, aircraft traffic counting, early coordination of construction projects, and administering the State Airport Grant, a state matching program supplementing a local sponsor's share of the Federal Aviation Administration's airport funding program.

By ordinance, a county council may establish a "regional transportation authority."<sup>84</sup> By resolution of the affected county councils, a regional transportation authority may be expanded to include more than one county.<sup>85</sup> A regional transportation authority is governed by a board, with membership appointed by the county commissioners and identified municipalities.<sup>86</sup> A regional transportation authority may "determine the level and kind of public transportation that should be provided." It may "establish at or near its terminals and stations the off-street parking facilities and access roads that are necessary and desirable, and charge fees for or allow free use of those facilities." The authority may do "all other acts necessary or reasonably incident to carrying out" its purposes.<sup>87</sup>

### **Brownfield Redevelopment and Associated Remediation**

The Voluntary Remediation Program includes brownfield redevelopment among its purposes. The program provides an alternative procedure to assure legal compliance and to encourage the "voluntary remediation of hazardous substances and petroleum." A person who wishes to participate in the program provides an application and fee to IDEM. The application includes an assessment of the real estate, the operational history, and information known to the applicant concerning the nature of any contamination and relevant releases at the site or contiguous to the site. A qualified applicant proposes a voluntary remediation work plan which is provided to IDEM, local government units in the county affected, and in a local library. Notice of the proposal is also published soliciting comments from the public regarding the proposed work plan. Where a plan is approved by IDEM, the agency provides oversight to assure compliance. Approval of a plan may be withdrawn where the person implementing it "fails substantially to comply with the terms and conditions" or where a "hazardous substance or petroleum becomes an imminent and substantial threat to human health or the environment." Where a plan is completed satisfactorily, IDEM issues "a covenant not to sue for any liability, including future liability, or a claim resulting from or based upon the release or threatened release of a hazardous substance or petroleum that is addressed" in the plan.<sup>88</sup>

In 1997, the Indiana General Assembly adopted new concepts and changed others, hoping to further encourage the redevelopment of brownfields.<sup>89</sup> As defined in the legislation, a "brownfield" means an industrial or a commercial parcel of real estate: (1) that is abandoned or inactive or may not be operated at its appropriate use; and, (2) on which expansion or redevelopment is complicated because of the actual or perceived presence of a hazardous substance or petroleum released into the surface or subsurface soil or groundwater that poses a risk to human health and the environment.<sup>90</sup>

Effective July 1, 1997, a person may request a local body to designate an area as a "brownfield revitalization zone." The applicant must submit a statement of public benefits, which includes a description of the proposed remediation and redevelopment, an estimate of the number of jobs created or

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<sup>84</sup> IC 36-9-3.

<sup>85</sup> IC 36-9-3-3.

<sup>86</sup> IC 36-9-3-5.

<sup>87</sup> IC 36-9-3-13.

<sup>88</sup> IC 13-25-5. This chapter also establishes the "voluntary remediation fund" to assist IDEM in its administration. IC 13-25-5-21.

<sup>89</sup> P.L. 59-1997 as codified primarily at IC 13-19-5 and IC 13-30-9. See also K. Lucas, *New Indiana Legislation Targets Brownfield Revitalization*, SHORELINES, 3 (Fall 1997).

<sup>90</sup> IC 13-11-2-19.3.

retained, and an estimate of the value of the project. The designating body may establish administrative fees and standards “reasonably related to accomplishing the purposes” of the new law. A public process is provided to assist in evaluating the benefits of creating the zone, applying a number of factors that must be satisfied. Among other requirements, the project must meet the criteria developed by IDEM and must be eligible to successfully obtain a certificate of completion under IDEM’s Voluntary Remediation Program. An appeal process is provided for a person aggrieved by the designation, which is heard by a civil court.

Following the designation of an area as a brownfield revitalization zone, a person may apply for property tax deductions under terms specified in the legislation. These assessed valuation deductions may be granted for periods of three, six, or ten years. The amount is calculated by the increase in valuation resulting from the project, multiplied by a percentage based on the deduction period and year of the deduction.

In addition to the tax deductions, financial assistance is available to political subdivisions from the Environmental Remediation Revolving Loan Fund.<sup>91</sup> The Fund is administered by the Indiana Development Finance Authority, which manages “all aspects of the program”, under a memorandum of understanding with IDEM and the State Budget Agency. Responsibilities include: (1) preparing and providing information; (2) negotiating agreements and submitting them to the State Budget Agency for approval; (3) reviewing proposed projects to insure compliance with criteria established by rule or nonrule policy document; (4) preparing inspection reports; and, (5) preparing annual reports to the Governor and the Indiana General Assembly. IDEM is responsible for (1) evaluating the technical aspects of the environmental assessments, proposed remediation and remediation activities on brownfield properties; (2) inspect brownfield remediation activities; (3) act as a liaison with the EPA; and (4) serve as a point of contact for answering technical questions about environmental aspects of the program.

Another important component of the brownfields legislation involves changes to Indiana’s environmental liability scheme. In an effort to encourage redevelopment of property that may be abandoned or underused because of concerns for environmental liability, the Indiana General Assembly adopted a “fair share” or “proportionate share” liability concept.<sup>92</sup>

IDEM also provides assistance for remediation through the Indiana Brownfields Program. The Program works closely with the Voluntary Remediation Program to provide Comfort and Site Status Letters to limit liability of past actions by previous owners and encourage development of a brownfield site. In addition, the Program assists a prospective purchaser of a brownfield wishing to pursue a Certificate of Completion and a Covenant Not to Sue. Other forms of assistance provided by the Brownfields Program include workshops to inform interested persons about available resources for brownfields; brownfields environmental assessments to determine potential cleanup cost and environmental liability; financial assistance in the form of grants and low-interest loans; and, the organization of the Interagency Brownfields Task Force which brings together several state agencies to share resources for brownfield redevelopment.

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<sup>91</sup> IC 13-9-5-1.

<sup>92</sup> IC 13-30-9.



## Matrix 5-7: Cross-reference of Economic Development Laws and Guidance Documents

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
Ports and Adjacent Development, Maintenance, and Expansion				
<p>DREDGING: Dredging activities are regulated by the ACOE under the Clean Water Act and the Rivers and Harbor Act. In addition, harbor dredging potentially requires an IDEM Section 401 Water Quality certification or a DNR construction in a floodway or navigable waters permit.</p> <p>Disposal of dredged material may also require permits from DNR and IDEM.</p>	<p>IC 14-28-1-22 IC 14-29-1-8</p>	<p>See standards and criteria for construction in a floodway permit and Section 401 water quality certification program in the table titled Cross-reference for Water Quantity Laws and Guidance Documents.</p>	<p>IDEM, Office of Water Management 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 233-8488 1-800-451-6027</p> <p>DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755</p>	<p>IC 14-28-1 IC 14-29-1</p> <p>310 IAC 6-1 312 IAC 6</p> <p>401 water quality certification</p>
<p>EXTRACTION OF SAND AND GRAVEL FROM A NAVIGABLE WATERWAY: This activity is separately addressed under the Navigable Waterways Act and requires a permit to undertake this activity. In addition, a royalty fee may be assessed for materials dredged from Lake Michigan. A waiver of the fee is possible if suitable dredged materials are used as beach nourishment along the lakeshore.</p>	<p>IC 14-29-3 312 IAC 6-5-8(b)</p>	<p>(1) Whether or not the project will impede navigation; (2) whether or not the project will damage or endanger a bridge, highway, railroad, public work, utility, or the property of a riparian owner or adjoining proprietor or adjacent permittee; and, (3) whether or not the project will endanger human lives.</p>	<p>DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755</p>	<p>IC 14-29-3 312 IAC 6-5-8(b)</p>

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		A project subject to permit under this statute does not require a separate permit under the Navigable Waterways Act (IC 14-29-1) provided the Navigable Waterways Act evaluation criteria are applied as well.		
LAKE MICHIGAN FILLS AND LAND PATENTS: The owner of real property, or the owner of an easement for public park purposes through real property, that borders Lake Michigan may seek a permit from the DNR to fill an adjacent portion of the Lake.	IC 14-18-6	Hazardous waste cannot be disposed on an area for which a fill permit is approved. After grant of the permit and the approval of a survey and plat by the county surveyor, and the payment of \$100 per acre, a person may obtain a land patent for the filled area. <sup>1</sup> This statutory authority does not, however, exempt an applicant from obtaining other needed approvals for filling navigable waters, waters of the United States, or waters of the State.	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755	IC 14-18-6
Siting and Developing Energy Facilities				
POWERPLANT CONSTRUCTION: Construction of a powerplant requires a certificate of necessity.	IC 8-1-8.5  170 IAC 4-7 170 IAC 4-8	Before construction begins, certification from the IURC must be obtained which provides that energy facility siting laws in Indiana have been met and the analysis of the need for electricity has been determined.	Indiana Utility Regulatory Commission, Division of Pipeline Safety 302 W. Washington St., Ste. 306 Indianapolis, IN 46204	IC 8-1-8.5  170 IAC 4

<sup>1</sup> IC 14-18-6.

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
			(317) 232-2701	
ENERGY FACILITY DISCHARGES: Water quality standards apply to energy facility discharges.	IC 13-18-4-4 IC 13-18-4-5 IC 13-18-5-1 IC 13-18-5-2(3)	All energy facilities and the construction of new energy facilities must adhere to Indiana water quality standards.		IC 13-18  327 IAC 2-1.5
ANALYSIS OF LONG-RANGE ELECTRICITY NEEDS: Documentation of estimated needs for electricity due to growth. In addition the report includes information on the potential location of new generating facilities to meet demand, as well as arrangements for pooling of power among various utilities to achieve maximum efficiency of energy. A forecasting group develops and maintains methodologies to estimate future growth of the use of electricity in the State.	IC 8-1-8.5-3 IC 8-1-8.5-3.5  170 IAC 4-7	The IURC shall develop, publicize, and keep current an analysis of the long-range needs for expansion of facilities for the generation of electricity. The analysis must include an estimate of: (1) the probable future growth of the use of electricity; (2) the probable needed generating reserves; (3) the optimal extent, size, mix, and general location of generating plants; (4) the optimal arrangements for statewide or regional pooling of power and arrangements with other utilities and energy suppliers to achieve maximum efficiencies for the benefit of the people of Indiana; and, (5) the comparative costs of meeting future growth by other means of electric service. In making the analysis and developing the plan the IURC shall conduct public hearings and submit to the governor the analysis and plan.	Indiana Utility Regulatory Commission 302 W. Washington St., Ste. 306 Indianapolis, IN 46204 (317) 232-2701	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
Storing and Transporting Energy Resources				
PIPELINE SAFETY: The Pipeline Safety Division of the IURC is charged with the regulation of the transportation of gas and of related pipeline facilities and operations to promote the public safety.	IC 8-1-22.5  170 IAC 5-3	Safety standards for the transportation of gas and related pipeline facilities address design, installation, inspection, testing, construction, extension, operation, and maintenance. Annual certification for compliance with federal safety standards is required from the IURC for owners, operators, or leasees of pipeline facilities.	Indiana Utility Regulatory Commission, Division of Pipeline Safety 302 W. Washington St., Ste. 306 Indianapolis, IN 46204 (317) 232-2701	IC 8-1-22.5  170 IAC 5-3
PIPELINE CONSTRUCTION: Pipelines that cross a floodway or navigable water may require a permit from the DNR. Petroleum tanks and connecting pipelines are regulated as underground storage tanks.	IC 14-28-1 IC 14-29-1  310 IAC 6-1-6 through 310 IAC 6-1-19 312 IAC 6  IC 13-23 IC 13-11  329 IAC 9	See criteria for navigable waterway permits in section titled coastal hazards, cross-reference of coastal hazards laws and guidance documents.  See criteria for underground storage tanks in section titled pollution prevention, recycling, reuse, and waste management, cross-reference of pollution prevention, recycling, reuse, and waste management laws and guidance documents.	DNR, Division of Water 402 W. Washington St., Rm. W264 Indianapolis, IN 46204 (317) 232-4160 1-877-928-3755  IDEM, Office of Environmental Response PO Box 6015 Indianapolis, IN 46206 (317) 308-3080 1-800-451-6027	IC 14-28-1 IC 14-29-1  310 IAC 6-1-6 through 310 IAC 6-1-19 312 IAC 6  IC 13-23 IC 13-11  329 IAC 9
TRANSPORTATION OF GAS: A certificate of necessity is required from IURC before a person can transport gas for sale or delivery.	IC 8-1-2-87.5	A certificate is provided if (1) the applicant has the power and authority to obtain the certificate and render requested services; (2) the applicant has the	Indiana Utility Regulatory Commission 302 W. Washington St., Ste. 306	IC 8-1-2-87.5

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		financial ability to provide the services; (3) public convenience and necessity require the providing of the service; and, (4) public interest will be served by the issuance of the necessity certification.	Indianapolis, IN 46204 (317) 232-2701	
<b>Planning, Constructing, and Maintaining Transportation Facilities</b>				
MOTOR VEHICLE HIGHWAY ACCOUNT: Provides fair distribution of funding among state and local governments for roadway maintenance.	IC 8-14-1	The money remaining after refunds, payment of expenses, appropriations to the INDOT for traffic safety, and the state police department, is allocated to cities, towns, and counties for construction, reconstruction, and maintenance of streets and alleys. Money in the fund may not be used for any toll road or toll bridge projects.	INDOT 100 N. Senate St., N901 Indianapolis, IN 46204 (317) 232-5533	Not applicable.
LOCAL ROAD AND STREET ACCOUNT: Established account which receives 45% of revenue generated from gasoline and special fuel taxes. Funds are allocated to cities, town, and counties.	IC 8-14-2	Funding may be used for (1) engineering, land acquisition, construction, resurfacing, maintenance, restoration, or rehabilitation of local and arterial street systems; (2) payment of principal and interest on bonds to finance road projects; (3) local costs required to undertake recreational or reservoir road projects; and, (4) purchase of rental or repair of highway equipment.	INDOT 100 N. Senate St., N901 Indianapolis, IN 46204 (317) 232-5533	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
TRANSPORTATION ENHANCEMENT PROGRAM: Provides up to 80% matching reimbursing assistance to enhance the transportation system.	INDIANA TRANSPORTATION ENHANCEMENT PROGRAM: A GUIDE FOR CITIZENS AND LOCAL GOVERNMENTS (October 1998)	(1) The project must be a transportation project or facility. (2) The project must be adjacent to a site of an existing transportation project or facility. (3) The project must have a positive affect on other transportation systems or facilities	INDOT, Division of Planning and Programming 100 N. Senate Ave. N901 Indianapolis, IN 46204 (317) 232-5224	Not applicable.
PUBLIC MASS TRANSPORTATION FUND: Promotes and develops public transportation in Indiana.	IC 8-23-2-8  Public Mass Transportation Fund Program Management Plan	The PMTF can be used to match federal funds available under the Federal Transit Act, as amended, or local funds from and eligible grantee that provides public transportation in Indiana. Only applications for capital and operating assistance may be approved. (2) The INDOT shall approve the formula for allocating funds. (3) The INDOT must forward approval for review by the State Budget Committee. The State Budget Committee forwards its review to the State Budget Agency and the Governor's office for final approval.	INDOT, Public Transit Section 100 N. Senate Ave. N901 Indianapolis, IN 46204 (317) 232-1495	Not applicable.
RAIL ABANDONMENT: A railroad company must provide notice to INDOT of its intention to abandon any rights-of-way.	IC 8-3-1-21.1	INDOT communicates the notice of intent to: (1) county executives, county surveyors, and cities and towns affected; (2) the Department	INDOT, Intermodal Division, Railroad Section 100 N. Senate St., N901	IC 8-3-1-21.1

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		of Commerce; and, (3) the DNR. Within 90 days after receiving notice from INDOT, DNR "shall make a study of the feasibility of converting the right-of-way for recreational purposes." If DNR finds conversion to recreational purposes is feasible, DNR "shall urge the appropriate state and local authorities to acquire the right-of-way for recreational purposes."	Indianapolis, IN 46204 (317) 232-1474	
INDUSTRIAL RAIL SERVICE FUND: Makes loans available for acquisition of rail rights-of-way or track rehabilitation. Makes grants available for railroad relocation and planning activities.	IC 8-3-1.7	The INDOT considers (1) The importance of the railroad transportation services that the loan would affect, in the broad perspective of Indiana's overall transportation network. (2) The impact of a decision to not provide a loan on economic activity and employment in Indiana. (3) The long term viability of the proposed project.	INDOT, Intermodal Division, Railroad Section 100 N. Senate St., N901 Indianapolis, IN 46204 (317) 232-1491	Not applicable.
GRADE CROSSING IMPROVEMENT FUND: Grant program to assist with match required for federal money directed to grade crossing improvements and improvements in safety of passive grade crossings.	IC 8-6-7.7-6.1	May be used by the DOT: (1) to carry out duties of DOT in IC 8-6-7.7, and (2) for passive railroad crossing safety improvements.	INDOT, Intermodal Division, Railroad Section 100 N. Senate St., N901 Indianapolis, IN 46204 (317) 232-4786	Not applicable.
TALL STRUCTURES: The location and height of structures and the use of land near public-use airports is regulated by	IC 8-21-10	Before issuing a permit for a structure or type of land use, INDOT considers if the	INDOT 100 N. Senate St., N901	IC 8-21-10

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
INDOT.		proposed structure erected in the proposed location would have a substantial adverse effect upon the safe and efficient use of the navigable airspace and or whether the structure would be a hazard to air navigation if constructed.	Indianapolis, IN 46204 (317) 232-5533	
Brownfield Redevelopment and Associated Remediation				
VOLUNTARY REMEDIATION PROGRAM: Provides for voluntary cleanup of contaminated property. When the cleanup is successfully completed, IDEM will issue a Certificate of Completion. The Governor's Office will issue a Covenant Not to Sue. These documents provide assurance that the cleaned areas will not become the subject of future IDEM enforcement action. Any site owner or operator, or prospective owner who wishes to clean up property contaminated with petroleum or hazardous substances is potentially eligible to participate in VRP.	IC 13-25-5  VOLUNTARY REMEDIATION PROGRAM RESOURCE GUIDE (October 1995).	For an application to the program to be eligible, the following conditions must be met: (1) be on a form provided by the department; (2) contain general information concerning the person, the site, and other background information as requested by the department; (3) include an environmental assessment of the actual or threatened release of the hazardous substance or petroleum at the site; and, (4) be accompanied by an application fee of \$1,000. A political subdivision is not required to submit an application fee.	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3363 1-800-451-6027	IC 13-25-5
VOLUNTARY REMEDIATION FUND: Established to provide a source of funding to IDEM to implement the voluntary remediation program.	IC 13-25-5-21		IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015	Not applicable.



<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
			Indianapolis, IN 46206 (317) 308-3363 1-800-451-6027	
BROWNFIELD REDEVELOPMENT: Through this program IDEM helps communities promote the reuse of existing properties, recognize and cleanup brownfields, and revitalize economically depressed areas.	IC 6-1.1-42 IC 13-19-5 IC 13-25-3 IC 13-30-9 IC 13-11-2-19.3	A brownfields site is an industrial or commercial property that is abandoned, inactive, or underutilized, on which expansion or redevelopment is complicated due to the actual or perceived environmental contamination.	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3131 1-800-451-6027	Not applicable.
ENVIRONMENTAL REMEDIATION REVOLVING LOAN FUND: Financial assistance available to political subdivisions for identification, assessment, remediation, demolition, and other costs related to brownfield redevelopment. <sup>2</sup>	IC 13-19-5-1	The Finance Authority has developed a priority ranking system for making loans and providing other financial assistance based on the following: (1) socioeconomic distress in an area, as determined by the poverty level and unemployment rate in the area; (2) a technical evaluation by the department under IC 13-19-5-1(A)-(B); (3) the number and quality of jobs that would be generated by a project; (4) housing, recreational, and educational needs of communities; and, (5) any other factors the authority determines will assist in the implementation of this fund.	Indiana Development Finance Authority One North Capitol Ste. 320 Indianapolis, IN 46204-2226 (317) 233-4332	Not applicable.

<sup>2</sup> Additional information regarding this program can be found at <http://www.state.in.us/idfa/programs/brp.html>.

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
FEDERAL BROWNFIELDS TAX INCENTIVE: Allows a taxpayer to deduct cleanup expenses in the year incurred. IDEM must certify the site is a “qualified contaminated site” to be eligible.	Federal Brownfields Tax Incentive Qualified Contaminated Site Statement Policy (October 1998) <sup>3</sup>	<p>IDEM must determine: (1) the site is within a targeted area, and (2) there has been a release (or threat of release) or disposal of any hazardous substance at the site.</p> <p>Sites listed on the National Priorities List are not eligible for deduction.</p> <p>Targeted Areas: (1) census tracts with poverty rates of 20% or more; (2) census tracts with populations of less than 2,000 where more than 75% of the tract is zoned for commercial or industrial use, and the tracts are adjacent on one or more census tract(s) with poverty rates of 20% or more; (3) federally designated Empowerment Zones (EZ) and Enterprise Communities (EC); or, (4) EPA designated Brownfields Pilot sites announced before February 1, 1997.</p>	IDEM, Office of Environmental Response 2525 N. Shadeland Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3126 1-800-451-6027	Not applicable.
BROWNFIELDS CLEANUP REVOLVING LOAN FUND: Provides public and private	IC 13-19-5-1	Applicants must show evidence of their intent to involve local	IDEM, Office of Environmental	Not applicable.

<sup>3</sup> The nonrule policy document *Federal Brownfields Tax Incentive Qualified Contaminated Site Statement Policy*, OER-0009-NPD, Indiana Department of Environmental Management, 22 IND. REG. 843 (December 1, 1998) can be read at <http://www.state.in.us/idem/olq/brownfields/>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
entities with small amount of funding to clean up brownfields. <sup>4</sup> Administered by IDEM using the same structure as the Environmental Remediation Loan Fund.		residents and community organizations in the cleanup process, and describe how cleanup efforts will create and sustain jobs.	Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3126 1-800-451-6027	
INDIANA BROWNFIELDS PROGRAM: IDEM administers the Brownfield Program to assist potential purchasers of brownfield properties.		The Program works with the Voluntary Remediation Program to provide Covenant Not to Sue and Certificate of Completion. In addition, the Program offers workshops, environmental assessments, and organizes the Interagency Brownfields Task Force.	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3131 1-800-451-6027	Not applicable.
Economic Development and Tourism				
ECONOMIC DEVELOPMENT FUND: The fund is a revolving fund for the purpose of providing grants and loans for economic development activities in Indiana.	IC 4-4-7	Funding may be used for public works, technical assistance, economic adjustment assistance, and other economic development programs.  If a qualified entity proposes to use the funding for a loan program, the application from the qualified entity must contain the conditions under which loans will be made and the interest rate that will be charged.	IDOC, Business Development One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8888	Not applicable.

<sup>4</sup> Further explanation of the Brownfields Cleanup Revolving Loan Fund is accessible at <http://www.state.in.us/idem/olq/brownfields/>

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
<p>INDUSTRIAL DEVELOPMENT PROGRAM AND FUND: The State Board of Finance and the IDOC jointly administer the industrial development fund from which loans may be made to qualified entities, small business investment companies, and a state corporation.</p>	<p>IC 4-4-8</p>	<p>(1) An application is submitted to the State Board of Finance and the IDOC stating the need for the project and cost estimate; (2) the project is based upon sound engineering principles and is in the interest of industrial development; (3) the loan does not exceed 100% of the cost to the qualified entity of any approved project; and, (4) the qualified entity has agreed to furnish assurance that it will operate and maintain the program, after completion, in a satisfactory manner.</p> <p>The State Board of Finance and the IDOC will loan to any small business investment company or the state corporation under this chapter only if: (1) the small business investment company, minority enterprise small business investment company, or the state corporation has loaned to or invested in a business located in an enterprise zone for a purpose directly related to the enterprise zone an amount that is at least twice the amount of the requested loan; and (2) the small business investment company or</p>	<p>IDOC, Business Development One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8888</p>	<p>Not applicable.</p>

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		state corporation has submitted an application, before the beginning of the phase out period of the enterprise zone, that shows the amount of the loan requested.		
INDUSTRIAL DEVELOPMENT GRANT FUND:	IC 4-4-12		IDOC, Business Development One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8888	Not applicable.
RURAL DEVELOPMENT PROGRAM AND FUNDING: Funding to aid the growth of rural areas.	IC 4-4-9	A county, city, or town can receive a grant from the fund in an amount equal to the amount that the county, city, or town contributes to a project for the construction of a sewer system, sewer system extension, water distribution system, or water distribution system extension if: (1) the county has imposed a county adjusted gross income tax under IC 6-3.5-1.1, a county option income tax under IC 6-3.5-6, or a county economic development income tax under IC 6-3.5-7; (2) the county, city, or town establishes an interest bearing account known as the sewer system or water distribution system development account; (3) money in the sewer	IDOC One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8800	Not applicable.

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
		system or water distribution system development account may be used only to pay for a project for the construction of a sewer system, sewer system extension, water distribution system, or water distribution system extension; (4) the amount of the county, city, or town contribution is deposited in the sewer system or water distribution system development account; (5) the project will result in sanitary sewer service or water service being available to an area that did not previously have the service; and, (6) an existing public sanitary sewer service or water service is available within a one mile radius from the proposed project, and the provider of that service has agreed to allow the project to be connected to and become part of the existing public service.		
STEEL INDUSTRY ADVISORY COMMISSION: A 13-member board chaired by the Lt. Governor which is charged with examining: (1) existing Indiana and federal statutes, rules, and regulations that either encourage or discourage production and consumption of Indiana steel; (2) the	IC 4-4-16.5	The commission shall prepare an annual report to the legislative council and a summary letter to the General Assembly through the legislative council no later than December 1 each year. The report must address the following issues: (1) Ways in	IDOC, Business Development One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8888	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
problems currently faced by the Indiana steel industry, including foreign competition and the economic climate for the steel industry in Indiana; and (3) any other matters considered relevant to the future of the steel industry in Indiana.		which the utilization of Indiana steel can be expanded within Indiana and the world. (2) Ways in which any additional problems included in the examination conducted by the commission may be remedied. (3) Recommend modification, if any, of state statutes or rules.		
PERMIT ASSISTANCE CENTER: The State Information Center maintains an information file on all state agency permit requirements that affect Indiana businesses. Materials are developed to help applicants understand permit requirements. The Center also advises applicants on the requirements of federal and local permit requirements.	IC 4-4-17	Duties of the Center include: (1) providing comprehensive information on permits required for business activities in Indiana, and making this information available to any person; (2) working with other offices within the department in assisting applicants in obtaining timely and efficient permit review and the resolution of issues arising from permit review; and, (3) encouraging the participation of federal and local government agencies in permit coordination.	State Information Center 402 W. Washington St., Rm. W160A Indianapolis, IN 46204 (317) 233-0800 1-800-45-STATE	Not applicable.
TOURISM INFORMATION AND PROMOTION FUND: Financial assistance available to tourism groups for the promotion of tourist resources and facilities in the State. Each grant must be matched by funds provided by the applicant, and the IDOC may not provide more than one-half the funds for a	IC 4-4-3.5	Consideration is given to the general merits, potential effectiveness, and total cost of the activity.	IDOC, Tourism One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8860	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
project. The matching funds required by the applicant may be provided by any source except other state funds.				



## **Section 5-8: Pollution Prevention, Recycling, Reuse, and Waste Management**

In the early 1990s, Indiana's environmental protection effort shifted from an emphasis on pollution control to one that focuses on achieving pollution prevention through environmentally and economically sound approaches.<sup>1</sup> Northwest Indiana has suffered severe environmental consequences from rapid industrial success prior to environmental controls. The Grand Calumet River and Indiana Harbor and Ship Canal contain 35 million cubic yards of severely contaminated water and sediments. In the past, millions of gallons of inadequately treated wastewater entered the river and harbor each year. The region also has six Superfund sites, dozens of leaking underground storage tanks, and many other potential cleanup sites, which limit productive use of the land.<sup>2</sup> Now, with cooperation from federal, state, and local governments, citizen groups, and industries, sites previously degraded are being cleaned, and waste reduction is a priority.

More stringent closure requirements have encouraged landfills to close out old areas of their landfills and develop new areas, allowing more waste to be disposed in lined landfill cells. There are indications that Indiana continues to increase the amount of waste diverted from disposal, but accounting for which specific activities are occurring to cause this increase is difficult to determine.

The number of large quantity generators of hazardous waste has fluctuated over the last several years but generally the trend is toward a decrease in the number of such generators. Most likely the trend is due to companies trying to reduce and recycle their waste as well as treat it to render it non-hazardous. As a consequence there is a growing concern with the amount of hazardous waste that is managed in ways which are exempt from hazardous waste regulations.<sup>3</sup>

Several incentives offered by state agencies encourage recycling by businesses and industries. Local solid waste management boards promote recycling and reuse by households.

Northwest Indiana is a priority for IDEM Office of Pollution Prevention and Technical Assistance due to the area's environmental significance, concentration of manufacturing, and large population. This section outlines the techniques used by the State to promote pollution prevention, recycling, and reuse. In addition, the section explains the processes used to manage solid and hazardous waste.

### **Managed Activities**

- Storage, handling, disposal, and transportation of solid and hazardous wastes.
- Cleanup of unregulated hazardous waste disposal sites.
- Underground storage tanks.
- Pollution prevention, recycling, and reuse practices.

### **Background**

The idea that cities and towns need to dispose of accumulated solid waste has probably existed for as long as there have been cities and towns. An example of early Indiana legislation to address this idea is a 1905

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<sup>1</sup> <http://www.state.in.us/idem/oppta/index.html#PPPSheet>

<sup>2</sup> Information was obtained from the 1998 Environmental Performance Partnership Agreement at <http://www.state.in.us/idem/opa/innepps.html>.

<sup>3</sup> From the 1998 Environmental Performance Partnership Agreement at <http://www.state.in.us/idem/opa/enppa98ivb.html#IVH>.

enactment empowering cities and towns to enact ordinances to cremate or remove garbage, “other waste and unwholesome materials from their corporate limits.”<sup>4</sup> One method for responding to neighborhood objections regarding waste disposal sites was through “nuisance” civil suits as discussed previously in the section titled Water Quality.

On the national level, many early efforts to address waste disposal were non-governmental. In the 19<sup>th</sup> century, the American Public Health Association studied the garbage disposal system. In 1921, what has been called a “solid waste classic” was published, stressing the public health and siting problems of the disposal of municipal waste.<sup>5</sup> By 1939, a board of experts appointed by the US Surgeon General had developed principles for sound landfill practices, but in the early 1970s “federal regulation had not greatly exceeded this policy plateau.”<sup>6</sup>

How the federal government viewed waste disposal experienced a rapid evolution in the 1970s. The Resource Recovery Act of 1970 promoted studies and advanced recycling guidelines.<sup>7</sup> The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 and provided grants, planning, compliance orders, and other features directed to the management of solid and hazardous waste.<sup>8</sup>

Just as federal legislation was enacted in the 1970s to change how solid waste management was addressed, so state concerns during the same period also resulted in major changes. The Indiana Solid Waste Management Commission was created in 1975 to advance the informed treatment of solid waste. Among its charges were: (1) to obtain county data on solid waste expected to be accumulated in the next 20 years; (2) to identify existing methods and planning for solid waste management in each county; (3) to identify “social, political, and economic barriers to effective solid waste management;” (4) to evaluate alternative methods for solid waste management; and, (5) to explore the available solid waste management systems and determine the costs and benefits of each.<sup>9</sup>

Five years later, the Indiana General Assembly enacted legislation to establish permit requirements and penalty provisions relating to hazardous wastes. The legislation also required the former Environmental Management Board to adopt rules to govern the proper storage and disposal of hazardous waste.<sup>10</sup> The impact of the new legislation was underlined by the Indiana Court of Appeals four years later. A Lake County waste disposal operator had ceased doing business in 1977, but the court concluded that by allowing waste storage barrels to remain and deteriorate on the site, he was still criminally liable under the 1980 law.<sup>11</sup>

The concept that used materials might have economic value and could be recycled also is not a new one. For example, 1881 Indiana legislation sought to protect the property interests of railroad companies in “worn or scrap metal, or any iron, brass or other metals.” The statute made it unlawful to buy or sell metals in excess of one ton, from a railroad employee, without a company bill of sale to document authority to sell the metals.<sup>12</sup>

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<sup>4</sup> 1905 Ind. Acts, Ch. 129, . 233.

<sup>5</sup> Hering and Greeley, COLLECTION AND DISPOSAL OF MUNICIPAL REFUSE (1921) discussed in Rodgers, 3 ENVIRONMENTAL LAW (PESTICIDES AND TOXIC SUBSTANCES) 522 (1988).

<sup>6</sup> Rogers at 523.

<sup>7</sup> Pub. L. 91-512.

<sup>8</sup> 42 USC 6901.

<sup>9</sup> 1975 Ind. Acts, P.L. 350.

<sup>10</sup> 1980 Ind. Acts, P.L. 103, . . 9 and 17.

<sup>11</sup> *DeHart v. State*, Ind. App., 471 N.E.2d 312 (1984).

<sup>12</sup> 1881 Ind. Acts, Ch. 68.

State legislation explicitly concerned with “recycling” is, however, of relatively recent origin. A 1990 enactment encouraged the recycling of surplus state personal property and established recycling requirements for lead acid batteries.<sup>13</sup> The following year, IDEM was directed to establish a clearinghouse to help distribute information concerning a variety of environmental concerns, including recycling and composting.<sup>14</sup>

## **Implementation of Management Techniques**

### **Storage, Handling, Disposal, and Transportation of Solid and Hazardous Wastes**

The Solid Waste Management Board adopts rules and develops policy to regulate solid and hazardous waste and atomic radiation in Indiana. Included in its responsibilities is the authority to adopt rules to implement the Resource Conservation and Recovery Act (RCRA)<sup>15</sup> at the state level.<sup>16</sup> The board is authorized to adopt rules for a voluntary remediation program to remediate sites where releases of hazardous substances<sup>17</sup> or petroleum<sup>18</sup> have occurred.<sup>19</sup> The board also adopts rules governing the issuance of permits for the operation of waste management facilities<sup>20</sup> and underground storage tanks.<sup>21</sup>

Solid waste is any garbage, refuse, sludge, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, or agricultural operations or from community activities. Hazardous waste is excluded from solid waste rules.<sup>22</sup> Solid waste facilities in Indiana fall into two broad categories: land disposal facilities and processing facilities. Solid waste managed at those facilities can be classified as municipal solid waste, construction-demolition waste, industrial waste, or other wastes. Industrial waste is solid waste from a nonresidential source that is not: a hazardous waste, a municipal waste, a construction or demolition waste or an infectious waste.<sup>23</sup> The Office of Land Quality (OLQ) is the branch within IDEM that regulates these facilities and waste types in Indiana.<sup>24</sup>

OLQ is primarily responsible for insuring that Indiana’s solid and hazardous wastes are handled and disposed of in a manner which is legally and environmentally protective, including those wastes regulated by RCRA. OLQ evaluates and issues permits for the construction and operation of solid and hazardous waste processing and disposal facilities. OLQ also provides inspections to assure compliance. By statute a person that applies for a permit must also demonstrate there is “a local or regional need for the facility,”<sup>25</sup> financial responsibility<sup>26</sup> and “good character.”<sup>27</sup>

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<sup>13</sup> 1990 Ind. Acts, P.L. 19 now codified at IC 13-20-16.

<sup>14</sup> 1991 Ind. Acts, P.L. 1 now codified at IC 13-14-1-14.

<sup>15</sup> 42 U.S.C. 6901, *et seq.*

<sup>16</sup> IC 13-19-3-1.

<sup>17</sup> “Hazardous substance” has the meaning set forth in Section 101 of CERCLA (42 USC 9601). The term includes any substance that the board determines to be hazardous under environmental management laws. IC 13-11-2-98.

<sup>18</sup> “Petroleum” includes petroleum and crude oil or any part of petroleum or crude oil that is liquid at standard conditions of temperature and pressure. IC 13-11-2-160.

<sup>19</sup> IC 13-19-3-7.2.

<sup>20</sup> IC 13-20-1-5.

<sup>21</sup> IC 13-23-1-2.

<sup>22</sup> See IC 13-11-2-205 for a more detailed definition. See also 329 IAC 10-12.

<sup>23</sup> See 329 IAC 10-2-179 for more information.; Personal communication, Bruce Palin, IDEM Office of Land Quality, 10/2000

<sup>24</sup> Information regarding solid waste management by IDEM can be accessed at

<http://www.state.in.us/idem/olq/index.html>.

<sup>25</sup> IC 13-20-1-2.

<sup>26</sup> IC 13-20-2.

<sup>27</sup> IC 13-19-4.

The Solid Waste Management Board has adopted detailed rules governing the activities which must be permitted, waste facility permit applications, pre-operational requirements, and operational standards. Included among these are: (1) prohibition on open dumping;<sup>28</sup> (2) an identification of industrial on-site activities needing permits;<sup>29</sup> (3) the application of standards to facilities operating or already closed in 1988;<sup>30</sup> (4) solid waste facility classifications and waste criteria;<sup>31</sup> (5) technical information to accompany a permit application;<sup>32</sup> (6) terms pertaining to financial responsibility;<sup>33</sup> (7) operational approval and preoperation requirements;<sup>34</sup> (8) operational requirements;<sup>35</sup> (9) site closure and post-closure;<sup>36</sup> (10) groundwater monitoring and corrective actions;<sup>37</sup> (11) processing facilities and incinerators;<sup>38</sup> (12) operational requirements;<sup>39</sup> (13) standards with respect to special waste;<sup>40</sup> and, (14) waste tires.<sup>41</sup>

IDEM tracks solid waste via a certification, monitoring, and reporting process. A waste hauler that takes solid waste to a transfer station or final disposal facility must certify to the owner or operator of the transfer station or final disposal facility the county and state of origin of the largest part of the solid waste by weight. The owner or operator must also make quarterly reports to IDEM incorporating this information.<sup>42</sup> Similarly, a shipment of waste from a municipal waste collection and transportation vehicle must be accompanied by a municipal waste manifest, and the owner or operator must provide quarterly reports of the manifests to IDEM.<sup>43</sup>

A vehicle delivering waste to a final disposal facility must provide a written statement of the origin of the waste. If the largest part of a delivery was generated in another state, the health officer for the originating state must report the solid waste is neither hazardous waste nor infectious waste.<sup>44</sup>

Hazardous waste is defined by federal and state statute to mean a “solid waste, or combination of solid waste that, because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.”<sup>45</sup> If a waste meets the definition of solid waste, and has not been excluded by rule from the definition of hazardous waste, it is considered a hazardous waste if: (1) it is included on one of the four lists of hazardous waste identified by rule (listed waste);<sup>46</sup> or, (2) it exhibits one of the four defined hazardous

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<sup>28</sup> 329 IAC 2-4.

<sup>29</sup> 329 IAC 2-5.

<sup>30</sup> 329 IAC 2-6 and 329 IAC 2-7.

<sup>31</sup> 329 IAC 2-9.

<sup>32</sup> 329 IAC 2-11.

<sup>33</sup> 329 IAC 2-12.

<sup>34</sup> 329 IAC 2-13.

<sup>35</sup> 329 IAC 2-14.

<sup>36</sup> 329 IAC 2-15.

<sup>37</sup> 329 IAC 2-16.

<sup>38</sup> 329 IAC 2-17 and 18.

<sup>39</sup> 329 IAC 2-19.

<sup>40</sup> 329 IAC 2-21.

<sup>41</sup> 329 IAC 2-23 and 329 IAC 2-24.

<sup>42</sup> IC 13-20-3-1.

<sup>43</sup> IC 13-20-4.

<sup>44</sup> IC 13-20-5-2.

<sup>45</sup> [http://www.state.in.us/idem/olq/special\\_topics/hazardous\\_waste/index.html](http://www.state.in.us/idem/olq/special_topics/hazardous_waste/index.html).

<sup>46</sup> 329 IAC 3.1-6.

waste characteristics of ignitability, corrosivity, reactivity, or toxicity (characteristic waste). OLQ Hazardous Waste Program is primarily directed toward implementing RCRA Subtitle C requirements.<sup>47</sup>

Statutes and rules pertaining to the management of solid or hazardous wastes may be interpreted through nonrule policy documents. For example, a policy has been published to address limits on the stacking of drums in storage facilities.<sup>48</sup> Another policy outlines contingency plan preparation guidance as anticipated by federal and state hazardous waste regulations for large quantity hazardous waste generators.<sup>49</sup> A third addresses training for personnel who work with hazardous waste.<sup>50</sup>

### Land Application

Biosolids and industrial waste products are valuable resources that can be used to improve plant growth and soil quality. Biosolids are residues that are removed from wastewater during treatment and undergo treatment. These treated residues are also referred to as “sludge.” Industrial waste products are materials generated by industrial operations such as waste paper fibers, food processing wastes, and pharmaceutical manufacturing byproducts.<sup>51</sup> A permit from IDEM is required before an individual applies a sludge or a similar waste product to the soil.<sup>52</sup>

### Waste Tires

A waste tire storage site or processing operation requires a certificate of registration from IDEM.<sup>53</sup> An individual who stores waste tires must do so in a manner that “does not pose a threat to human health or the environment, does not pose a fire hazard, and controls vectors that pose a threat to human health.” Operators of storage or processing facilities must report annually to IDEM regarding the number of tires accepted or transferred. In addition a contingency plan must be maintained to protect health and the environment. Tires are not to be disposed of in a solid waste landfill.<sup>54</sup>

A fee of \$.25 is imposed on each new tire sold at retail and each tire sold on a new vehicle at retail.<sup>55</sup> The fee is deposited in the waste tire management fund.<sup>56</sup> A portion of the fund is used by IDEM to remove tires that were improperly disposed. IDEM’s waste tire education program is also funded by the fee. The Indiana Department of Commerce receives a portion of the fund to administer grants and loans to those involved in waste tire activities.

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<sup>47</sup> This information was obtained from IDEM’s web site at [http://www.state.in.us/idem/olq/special\\_topics/hazardous\\_waste/index.html](http://www.state.in.us/idem/olq/special_topics/hazardous_waste/index.html).

<sup>48</sup> *Container Stacking Policy*, WASTE-0016-NPD, Indiana Department of Environmental Management, 21 IND. REG. 1925 (Feb. 1, 1998).

<sup>49</sup> 40 CFR 265.50 through 265.56 and 329 IAC 3.1-10-1. *Hazardous Waste Contingency Plan*, WASTE-0017-NPD, Indiana Department of Environmental Management, 21 IND. REG. 1926 (Feb. 1, 1998).

<sup>50</sup> *Hazardous Waste Personnel Training*, WASTE-0018-NPD, Indiana Department of Environmental Management, 21 IND. REG. 1927 (Feb. 1, 1998).

<sup>51</sup> More information about biosolids and industrial waste products can be found on the IDEM web site at [http://www.state.in.us/idem/olq/special\\_topics/land\\_application/index.html](http://www.state.in.us/idem/olq/special_topics/land_application/index.html).

<sup>52</sup> 327 IAC 6-2-1.

<sup>53</sup> IC 13-20-13.

<sup>54</sup> IC 13-20-14.

<sup>55</sup> IC 13-20-13-7.

<sup>56</sup> IC 13-20-13-8.

### Solid Waste Management Districts

Each Indiana county is required by the General Assembly to establish, by county ordinance, a solid waste management district. One or more counties may establish a joint district.<sup>57</sup> Lake,<sup>58</sup> Porter,<sup>59</sup> and LaPorte Counties each have established a solid waste management district and have programs of education, recycling assistance, and technical assistance for both industry and the public to reduce waste by 50% by 2001.

### State Framework for Cleanup of Unregulated Hazardous Waste Disposal Sites

IDEM acts to protect the public from chemical spills and other environmental emergencies. The office addresses short and long-term cleanup projects at contaminated sites. Program areas for which IDEM has primary or significant responsibility include those for Superfund,<sup>60</sup> emergency response, the Defense Environmental Restoration Program; the Voluntary Remediation Program;<sup>61</sup> underground storage tanks;<sup>62</sup> natural resource damages, and brownfields.<sup>63</sup> The Voluntary Remediation Program and brownfields are discussed in Section 5-7: Economic Development.

Not all sites contaminated with hazardous materials are eligible for cleanup under federal Superfund programs. IDEM State Cleanup Section oversees the investigation and cleanup of state and responsible party funded cleanups of sites contaminated with hazardous substances and petroleum that threaten human health and the environment.<sup>64</sup> This section also administers the *Hazardous Substances Response Trust Fund*<sup>65</sup> established under the Indiana “Superfund law” to cleanup sites contaminated with hazardous substances, establish liability for potentially responsible parties (PRPs), and authorize IDEM to recover its costs associated with the cleanups. The *Indiana Scoring Model*<sup>66</sup> (ISM) is used to evaluate state cleanup sites for prioritization which are then published in the INDIANA REGISTER.

### Emergency Response

IDEM is authorized to “order and provide assistance to abate or remedy an emergency, on private or public property, caused by the discharge or impending discharge of any contaminant into or on the air, land, or waters of Indiana that poses an immediate and substantial danger to public health or the environment” if the assistance “must be immediate to be efficacious” and the responsible person either cannot be located or will not take prompt and effective action to abate the emergency.<sup>67</sup> If IDEM and ISDH determine contamination poses a “clear and present danger to the health and safety of persons in

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<sup>57</sup> IC 13-21-3.

<sup>58</sup> The Lake County Solid Waste Management District maintains a web site at <http://www.lcswmd.com/> to provide information regarding programs and concerns.

<sup>59</sup> The Porter County Solid Waste District maintains a web site designed to provide citizens with information on programs, upcoming events, and environmental concerns. The site can be found at <http://www.porterco.org/county/solidwaste/index.htm>.

<sup>60</sup> The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or “Superfund” provides federal assistance to help clean up uncontrolled or abandoned hazardous waste. 42 USC 9601, et seq (1980).

<sup>61</sup> IC 13-25-5. This chapter was discussed previously as a “brownfields” issue.

<sup>62</sup> IC 13-23-1.

<sup>63</sup> “Brownfields” were discussed previously in the context of economic development.

<sup>64</sup> This information was obtained from the IDEM State Cleanup Section web site at <http://www.state.in.us/idem/olq/programs/statecleanup/index.html>. IDEM authority to require cleanup of petroleum contamination is at IC 13-24-1.

<sup>65</sup> IC 13-25-4.

<sup>66</sup> 329 IAC 7-1.

<sup>67</sup> IC 13-14-10-3.

any area,” the Commissioner of IDEM is required to inform the Governor and request a finding that an emergency exists. The Governor may then proclaim an emergency and order all persons causing or contributing to the contamination to reduce or discontinue the contamination.<sup>68</sup>

### Defense Environmental Restoration Program

The mission of the Defense Environmental Restoration Program administered by IDEM is to investigate and cleanup active and closing military bases at which hazardous substances were used, stored, or disposed during past operations. The program is authorized by the Federal Facility Compliance Act of 1992<sup>69</sup> and an array of federal and state legislative authorities. No activity is currently cited by IDEM under this program within the coastal area.

### Natural Resource Damage Assessments

Pursuant to the CERCLA as amended,<sup>70</sup> the Oil Pollution Act (OPA),<sup>71</sup> and the Clean Water Act (CWA) as amended,<sup>72</sup> federal and state officials act on behalf of the public as trustees for natural resources. Two sets of regulations have been promulgated to guide trustees in the assessment of natural resource injuries and damages. In 1987, under the authority of CERCLA and CWA, the Department of Interior (DOI) issued regulations<sup>73</sup> for conducting damage assessments following the discharge of oil or the release of hazardous substances. The purpose of these regulations is “to provide standardized and cost-effective procedures for assessing natural resource damages.” When trustees complete an assessment, the results “shall be accorded the evidentiary status of a rebuttable presumption.”<sup>74</sup> The assessment procedures set forth in the regulations are not, however, mandatory.<sup>75</sup> In 1996 NOAA, acting on behalf of the US Department of Commerce (another federal trustee) and under the authority of OPA, issued regulations for the assessment of damages resulting from a discharge or substantial threat of discharge of oil into or upon the navigable waters of the United States, adjoining shorelines, or the Exclusive Economic Zone.<sup>76</sup>

Based upon this authority, a natural resource damages action has been commenced for the Area of Concern for the Grand Calumet River, Indiana Harbor and Ship Canal, and Near Shore Lake Michigan.<sup>77</sup> The Secretary of DOI acts as a federal trustee under the National Contingency Plan.<sup>78</sup> For this natural resource damage action, the Secretary has delegated authority to the US Fish and Wildlife Service and the National Park Service.<sup>79</sup> In 1987, the Governor delegated trusteeship for resources to IDEM and DNR. These trustees have initiated a natural resource damage assessment to address natural resource injuries resulting from the release of hazardous substances and oil to the waters of, and to the habitats associated with, the area covered by the Area of Concern. This Assessment Plan will serve as the guiding document for all damage assessment activities.

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<sup>68</sup> IC 13-14-10-1.

<sup>69</sup> Pub. L. 102-386. Codified at 42 USC 6901 note, 6903, 6908, 6924, 6927, 6939c, 6939c note, 6939d, 6939e, 6961, 6961 note, and 6965.

<sup>70</sup> 42 USC 9601, *et seq.*

<sup>71</sup> 33 USC 2701, *et seq.*

<sup>72</sup> 33 USC 1251, *et seq.*

<sup>73</sup> 43 CFR Part 11.

<sup>74</sup> 43 CFR 11.11.

<sup>75</sup> 43 CFR 11.10.

<sup>76</sup> 15 CFR Part 990.

<sup>77</sup> The Remedial Action Plan for this Area of Concern was discussed previously as a water quality issue.

<sup>78</sup> 40 CFR 300.600 and EXECUTIVE ORDER 12580, issued on January 23, 1987.

<sup>79</sup> 242 Departmental Manual 6.

The DOI regulations require the coordination of a damage assessment, to the extent possible, with response actions or other investigations being performed such as Superfund site cleanup activities. This requirement generally reflects circumstances where a damage assessment is being undertaken for a single site. In this case, a wide range of cleanup and other investigation and response activities (pursuant to CERCLA, CWA, and RCRA), and a variety of state and regional environmental initiatives are planned or underway at the numerous “sites” located within the Grand Calumet River watershed. At a minimum, the trustees will consider the objectives of these activities during the continued planning and implementation of this assessment. Whenever possible, the trustees will explicitly coordinate damage assessment activities with other investigations and will ensure that appropriate consideration is given to parties undertaking or completing remediation or restoration activities that satisfy the natural resource damage assessment objectives. To facilitate this process, the trustees are working with the Region 5 of EPA. An EPA Region 5 representative will serve as the main point of contact for the trustees regarding EPA’s activities in the Grand Calumet River watershed.

Coordination among the trustees is also an essential component of a cost-effective damage assessment. With this in mind, in February 1977, the trustees signed a Memorandum of Understanding that provides a framework for coordination and cooperation for the implementation of their natural resource trustee responsibilities. IDEM is the lead administrative trustee and is the central point of contact for the parties to the natural resource damage assessment action in the Area of Concern.

#### Contingency Plans for the Accidental Release of Petroleum in Lake Michigan

A contingency plan was prepared for the accidental discharge of petroleum and other hazardous materials into Lake Michigan at the Port of Indiana. Personnel from the Port, IDEM, Indiana Dunes National Lakeshore, US Coast Guard, and DNR Division of Law Enforcement designed and implement the plan.<sup>80</sup>

Both the EPA and the US Coast Guard have developed area contingency plans that include the Indiana coastal area in the event there is a release of oil or other hazardous material affecting southern Lake Michigan. Several local and state agencies in Indiana are designated to participate in implementing the plan. The US Coast Guard Chicago Marine Safety Office area contingency plan includes “the open waters of Lake Michigan, major bays, ports and harbors of Illinois, Indiana and western Michigan; the tributaries of Lake Michigan to the extent that they are navigable by deep draft vessels; and the land surface, land substrata, ground water, and ambient air proximal to those waters.”<sup>81</sup>

The objective of the EPA Region 5 Oil and Hazardous Substances Pollution Contingency Plan (RCP) and Area Contingency Plan (ACP) is to describe response protocols and assist in providing a coordinated response among federal, state, and local agencies in the event of a release or spill.<sup>82</sup> IDEM is the lead state agency in Indiana for the implementation of this plan. The RCP portion of this plan covers response for all of Region 5. The ACP portion of this plan covers the inland portion only. If a spill occurs in the coastal area as designated under the US Coast Guard plan, the spill will fall under the responsibility of the

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<sup>80</sup> Personal communication with Lt. Ed Troche, DNR Division of Law Enforcement, District 10 (July 9, 1999).

<sup>81</sup> The plan developed by the US Coast Guard is authorized under Section 4202 of the Oil Pollution Act of 1990 (OPA 90) amended Subsection (j) of Section 311 of the Federal Water Pollution Control Act (FWPCA) (33 USC 1321 (j)) to address the development of a National Planning and Response System. The plan can be accessed at <http://www.uscg.mil/d9/www/mso/chicago/ACP.htm>.

<sup>82</sup> The EPA plan fulfills the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) Section 300.210(b) and Section 311(j)(4) of the Clean Water Act (CWA). The RCP is developed pursuant to Section 300.210 of the NCP. The NCP is required by Section 105 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), by Section 311(d) of CWA, as amended by the Oil Pollution Act. The ACP is required by Section 311(j)(4) of CWA, and is written in conjunction with the NCP and CERCLA. Oil and hazardous substance liability are addressed primarily at 33 U.S.C. 1321. The plan may be accessed at <http://www.great-lakes.net/partners/epa/acp-rcp>.



Coast Guard and will only be subject to the RCP components of the EPA plan. If a spill occurs in an inland area, both the ACP and RCP components of the EPA plan apply.

### **Underground Storage Tanks**

By statute, IDEM operates an underground storage tank release detection, prevention, and correction program under rules adopted by the Solid Waste Management Board.<sup>83</sup> The rules must be no less stringent than regulations adopted by EPA under Section 9003 of the Federal Solid Waste Disposal Act.<sup>84</sup> Included in the rules must be a leak detection system, an inventory control system coupled with tank testing, or a comparable system or method. There must be standards for reporting, ordering corrective action, closure of underground tanks to prevent future releases, financial responsibility, and new underground storage tanks.<sup>85</sup> The board has adopted detailed rules in performance of its responsibilities with respect to underground storage tanks.<sup>86</sup> Underground storage tank upgrade requirements went into effect in 1998, and IDEM has published a penalty matrix for violations of those requirements.<sup>87</sup>

The Underground Petroleum Storage Tank Excess Liability Trust Fund is established to assist owners and operators of underground petroleum storage tanks to establish evidence of financial responsibility. The fund also provides a source of money to satisfy liabilities incurred by owners and operators in performing corrective actions, to provide a loan guaranty, to indemnify third parties, and to pay IDEM expenses in administering the fund.<sup>88</sup> The Underground Storage Tank Financial Assurance Board assists in implementation of the fund.<sup>89</sup>

The Underground Storage Tank Grant Closure Program provides financial assistance to small underground storage tank owners (12 tanks or less) faced with federal compliance deadlines for tank removal. The program is administered by the Indiana Development Finance Authority.<sup>90</sup>

### **Pollution Prevention, Recycling, and Reuse of Materials**

The Indiana General Assembly has expressed a policy choice favoring pollution prevention over elimination. “[P]ollution prevention is: (A) the most reliable and effective form of environmental protection; and, (B) the preferred approach to environmental protection.”<sup>91</sup>

“Pollution prevention” is the “employment by a business or a practice that: (1) reduces the industrial use of toxic materials; or, (2) reduces the environmental and health hazards associated with an environmental waste without diluting or concentrating the waste” before the release, handling, storage, transport, treatment, or disposal of the waste.<sup>92</sup> The term includes changes “in production technology, materials, processes, operations, or procedures.” The term also includes the “use of inprocess, inline, or closed loop

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<sup>83</sup> IC 13-23-1-1.

<sup>84</sup> 42 USC 6991b.

<sup>85</sup> IC 13-23-1-2.

<sup>86</sup> 329 IAC 9.

<sup>87</sup> *Penalty Policy for Underground Storage Tank/Leaking Storage Tank Requirements*, Enforcement 99-0001-NPD, Indiana Department of Environmental Management, 2 IND. REG. 2708 (May 1, 1999).

<sup>88</sup> IC 13-23-7-1.

<sup>89</sup> IC 13-23-11. Rules of the board are codified at 328 IAC.

<sup>90</sup> Additional information on the Underground Storage Tank Closure Grant can be obtained from [http://www.state.in.us/idem/olq/publications/forms/atcap\\_app.pdf](http://www.state.in.us/idem/olq/publications/forms/atcap_app.pdf).

<sup>91</sup> IC 13-12-5-4.

<sup>92</sup> IC 13-11-2-166(a).

recycling according to standard engineering practices.”<sup>93</sup> The term does not include a practice applied to an environmental waste after the waste: “(1) is generated or comes into existence; or, (2) exits a production or commercial operation.”<sup>94</sup> The policy goal of the State is to reduce the amount of solid waste incinerated and disposed in landfills in Indiana by 50% before January 1, 2001 through the application and encouragement of solid waste source reduction, recycling, and other alternatives to incineration and landfill disposal.<sup>95</sup>

The state agency primarily responsible for administration of the pollution prevention program is IDEM. IDEM implements the program through the Office of Pollution Prevention and Technical Assistance (or OPPTA).

OPPTA characterizes its roles as:

- Incorporating pro-active, and voluntary pollution prevention, initiatives within the regulatory programs of IDEM.
- Providing confidential, regulatory, and pollution prevention technical assistance.
- Administering the annual “Governor’s Awards for Excellence in Pollution Prevention.”
- Coordinating challenge grants for pollution prevention case studies and pilot projects.
- Promoting the advantages of pollution prevention through educational endeavors.
- Maintaining a technical resource and referral service for pollution prevention information.<sup>96</sup>

The Compliance and Technical Assistance Program (CTAP) was created for the purpose of assisting regulated entities in achieving compliance and promoting cooperation between IDEM and regulated entities. CTAP focuses on early education and outreach efforts to businesses and small communities to make them aware of new and existing regulations. IDEM has expanded the services of its CTAP program by providing a representative at its Northwest Regional office, serving Lake, Porter, and surrounding counties.<sup>97</sup>

IDEM’s Office of Enforcement has developed a civil penalty policy for violations of laws administered by the agency and has significant application to pollution prevention. The penalty is calculated by: (1) determining a base civil penalty dependent on the severity and duration of the violation; (2) adjusting the penalty for special factors and circumstances; and, (3) considering the economic benefit of noncompliance.<sup>98</sup> One way to improve the environment through enforcement actions is to obtain additional relief through projects that prevent or remediate the adverse public health or environmental consequences of pollution. As part of a settlement, IDEM may reduce a civil penalty assessment where a violator undertakes environmentally beneficial expenditures that are not otherwise required by law. These are called “supplemental environmental projects” (or “SEPs”), and IDEM recognizes six categories of SEPs that may be implemented: (1) pollution prevention projects; (2) pollution control projects; (3) environmental restoration projects; (4) public awareness projects; (5) environmental audits; and, (6) comprehensive environmental training.<sup>99</sup>

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<sup>93</sup> IC 13-11-2-166(b).

<sup>94</sup> IC 13-11-2-166(c).

<sup>95</sup> IC 13-19-1-2.

<sup>96</sup> Information available on the homepage of IDEM's Office of Pollution Prevention and Technical Assistance at <http://www.ai.org/idem/oppta/> or by calling 1-800-451-6027, extension 2-8172.

<sup>97</sup> Additional information on CTAP can be accessed at <http://www.state.in.us/idem/ctap>. The Northwest Regional Office CTAP contact can be reached at (219) 881-6720.

<sup>98</sup> *Civil Penalty Policy*, Enforcement-99-0002-NPD, Indiana Department of Environmental Management, 22 IND. REG. 2710 (May 1, 1999).

<sup>99</sup> *Supplemental Environmental Project Policy*, Enforcement-99-0003-NPD, Indiana Department of Environmental Management, 22 IND. REG. 2715 (May 1, 1999).

IDEM is required to report annually to the Governor and the General Assembly on the progress of pollution statewide. The Toxic Release Inventory (TRI) is a tool used to provide this information. The TRI is a database of information about releases and transfers of toxic chemicals from manufacturing facilities. Certain facilities must report their releases of toxic chemicals to the EPA under federal requirements of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA)<sup>100</sup> and the Pollution Prevention Act of 1990 (PPA).<sup>101</sup> Industrial groups, required to report on chemicals, are identified in federal statute by Standard Industrial Code (SIC).

Certain facilities must also report to IDEM on a yearly basis.<sup>102</sup> Facilities that report to IDEM meet the following criteria: (1) they must be a manufacturing facility, or federal facility; (2) they must have the equivalent of 10 full-time employees; (3) the chemical must be on the TRI list of 650 specific toxic chemicals or chemical categories; and, (4) they must either manufacture or process more than 25,000 lbs. of the chemical or use more 10,000 lbs. during the year.

TRI is considered a multi-media reporting tool since facilities must report the amounts they release to air, land, water, and underground separately, and must report how much they send off-site. All quantities of the TRI listed chemicals are reported in pounds rather than concentrations. TRI information for Indiana is available on the IDEM web site and other means since the information is required to be available to the public. This means that it's relatively easy to obtain TRI data and that the data is well-known, becoming a "yardstick" for measuring progress in pollution and waste generation.

The Indiana General Assembly has established the Clean Manufacturing Technology Board to oversee and facilitate the activities of the Indiana Clean Manufacturing Technology and Safe Materials Institute.<sup>103</sup> The Institute provides manufacturers and industries with advice on planning for clean manufacturing and assists in implementing in-process recycling techniques.<sup>104</sup> The Institute also assists with outreach and training programs, including the development of a state clearinghouse for clean manufacturing.<sup>105</sup> A priority is to develop "multimedia" (air, water, and land) clean manufacturing plans.<sup>106</sup> The Board also assists IDEM with the administration of grants to promote clean manufacturing, and it provides a public forum for the discussion of, and complaints related to, clean manufacturing.<sup>107</sup>

The Indiana Institute of Recycling is administered through Indiana State University. Its purpose is to develop concepts, methods, and procedures for assisting in efforts to recycle solid waste.<sup>108</sup>

The Indiana Recycling and Energy Development Board includes, among its charges, seeking markets for products made from recycled products and seeking new products from recycled materials.<sup>109</sup> This board also administers the Energy Efficiency Loan Fund "for the purpose of assisting Indiana industries in undertaking energy efficient projects."<sup>110</sup>

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<sup>100</sup> Pub. L. 99-499 codified at 42 USC 11001 to 11005, 11021, 11023, and 11041 to 11050.

<sup>101</sup> Pub. L. 101-508 codified at 42 USC 13101, *et seq.*

<sup>102</sup> The Toxic Release Inventory can be viewed at <http://www.state.in.us/idem/oppta/tri/index.html#What is TRI>.

<sup>103</sup> IC 13-27.5.

<sup>104</sup> IC 13-27.5-2-12.

<sup>105</sup> IC 13-27.5-2-13 and 15.

<sup>106</sup> IC 13-27.5-3.

<sup>107</sup> IC 13-27.5-1-10.

<sup>108</sup> IC 13-20-18.

<sup>109</sup> IC 4-23-5.5-6.

<sup>110</sup> IC 4-23-5.5-15(a).

The Indiana Department of Commerce is responsible for encouraging the conservation and efficient use of energy,<sup>111</sup> and, when offering economic assistance, for giving priority to businesses that “convert recycled materials into useful products or create markets for products made from recycled materials.”<sup>112</sup> The agency’s Energy Policy Division provides a wide range of assistance in energy efficiency, alternative energy, and recycling market development programs. The Division provides access to federal and state funding programs and other resources. Workshops offer training in assessing energy usage and present methods for increasing energy efficiency and reducing energy costs. A toll-free hotline -(800) 382-4631 - provides access to information on energy price, supply, and trend data in Indiana. The hotline also provides referrals to national energy information sources and technical databases. The Recycling Market Development Program provides technical assistance in identifying markets for recyclable materials. The program also helps manufacturers locate reliable supplies of recycled feedstock.<sup>113</sup>

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<sup>111</sup> IC 4-4-3-8(b)(9).

<sup>112</sup> IC 4-4-3-8.1.

<sup>113</sup> Background information was obtained from the Indiana Department of Commerce web site at <http://www.state.in.us/doc/>.

## Matrix 5-8: Cross-reference of Pollution Prevention, Recycling, Reuse, and Waste Management Laws and Guidance Documents

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
Storage, Handling, Disposal, and Transportation of Solid and Hazardous Wastes				
SOLID WASTE MANAGEMENT: The OLQ in IDEM administers the permitting, approval, and registration programs for solid waste disposal and processing facilities. It also provides technical support and review for compliance monitoring and enforcement, and aids in developing solid waste policy and rules. <sup>1</sup>	IC 13-20-1 IC 13-20-2 IC 13-20-8  323 IAC 1 329 IAC 10 329 IAC 11  Guidance Interpreting Indiana Municipal Solid Waste Landfill Operational Regulations Nonrule Policy <sup>2</sup>  Guidance Interpreting the \$0.50 per Ton Solid Waste Management Fee Nonrule Policy <sup>3</sup>	Before a person constructs or operators a solid waste landfill or incinerator, a permit must be obtained from the IDEM.  A landfill permit must include: (1) A description of the area that would be served by the solid waste management facility. (2) A description of existing solid waste management facilities in the area that would be served by the solid waste management facility. (3) A description of the need that would be fulfilled by constructing the solid waste management facility.  Permits for an incinerator will be granted after the applicant has:	IDEM, Office of Land Quality 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8871 1-800-451-6027	IC 13-20  323 IAC 1 329 IAC 10 329 IAC 11

<sup>1</sup> Information obtained from the IDEM OLQ web site at [http://www.state.in.us/idem/olq/special\\_topics/solid.html](http://www.state.in.us/idem/olq/special_topics/solid.html).

<sup>2</sup> *Guidance Interpreting Indiana Municipal Solid Waste Landfill Operational Regulations*, WASTE-0001-NPD, Indiana Department of Environmental Management, 20 IND. REG. 1250 (February 1, 1997). The nonrule policy document can be accessed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
	Post-Closure Uses of Solid Waste Disposal Facilities Nonrule Policy <sup>4</sup>	<p>granted after the applicant has:</p> <p>(1) complied with all construction and pre-operational standards established by pertinent rules; and,</p> <p>(2) submitted the results of a pre-operational emissions test that demonstrate that the incinerator's performance complies with all pertinent rules.</p> <p>Detailed permit criteria are included in rules and guidance documents.</p>		
HAZARDOUS WASTE MANAGEMENT: The IDEM OLQ is responsible for issues related to hazardous waste permits, closures, post-closures, remediations, and transport of wastes. The hazardous waste section provides technical expertise, regulatory interpretation, policy formation, and guidance to regulated facilities, government officials, and the public. <sup>5</sup>	<p>IC 13-22</p> <p>329 IAC 3.1</p> <p>329 IAC 10</p> <p>Hazardous Waste Contingency Plans Nonrule Policy<sup>6</sup></p> <p>Hazardous Waste Personnel Training</p>	<p>A permit is required for construction and operation of all hazardous waste facilities. A permit application must include a closure plan. A hazardous waste permit will not be issued for construction of facilities to incinerate PCBs or chemical munitions.</p> <p>A generator who generates at</p>	IDEM, Office of Land Quality 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-4462 1-800-451-6027	<p>IC 13-22</p> <p>329 IAC 3.1</p> <p>329 IAC 10</p>

<sup>3</sup> *Guidance Interpreting When the \$0.50/Ton Solid Waste Management Fee Should Be Assessed as it Relates to Waste as an Alternate Material at MSWLFs*, WASTE -0002-NPD, Indiana Department of Environmental Management, 20 IND. REG. 1267 (February 1, 1997). The nonrule policy document can be accessed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.

<sup>4</sup> *Post-Closure Uses of Solid Waste Disposal Facilities*, WASTE-0026-NPD, Indiana Department of Environmental Management, 21 IND. REG. 3197 (May 1, 1998). The nonrule policy document can be accessed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.

<sup>5</sup> Information obtained from the IDEM OLQ web site at <http://www.state.in.us/idem/olq/index.html>.

<sup>6</sup> *Hazardous Waste Contingency Plan*, WASTE-0017-NPD, Indiana Department of Environmental Management, 21 IND. REG. 1926 (February 1, 1998). The nonrule policy document can be viewed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
	<p>Nonrule Policy<sup>7</sup></p> <p>Hazardous Waste Management Unit Closure Plan Guidance Nonrule Policy<sup>8</sup></p> <p>RCRA Closure and Corrective Action<sup>9</sup></p> <p>Rejected Load Manifest Signatures, Rejected Load Manifest Distribution &amp; Rejected Mixed Load Procedures<sup>10</sup></p> <p>Staging Policy for Permitted Hazardous Waste Management Facilities<sup>11</sup></p>	<p>least 100 kg of hazardous waste in a month must prepare and submit to IDEM a manifest recording waste produced and transported.</p>		
SPECIAL WASTE MANAGEMENT: The IDEM OLQ monitors compliance with rules for non-residential, non-hazardous	<p>IC 13-20-7</p> <p>329 IAC 10-8</p>	<p>A certification is required before a special waste is disposed. A waste is certified as a special</p>	<p>IDEM, Office of Solid 100 N. Senate Ave. PO Box 6015</p>	<p>IC 13-20-7</p> <p>329 IAC 10-8</p>

<sup>7</sup> *Hazardous Waste Personnel Training*, WASTE-0018-NPD, Indiana Department of Environmental Management, 21 Ind. Reg. 1927 (February 1, 1998).

The nonrule policy document can be viewed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.

<sup>8</sup> *Hazardous Waste Management Unit Closure Guidance*, WASTE-0013-NPD, Indiana Department of Environmental Management, 20 IND. REG. 3537 (September 1, 1997).

The nonrule policy document can be viewed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.

<sup>9</sup> *RCRA Closure and Corrective Action*, WASTE-0015-NPD, Indiana Department of Environmental Management, 21 IND. REG. 274 (October 1, 1997). The nonrule policy document can be viewed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.

<sup>10</sup> *Rejected Load Manifest Signatures, Rejected Load Manifest Distribution, and Rejected Mixed Load Procedures*, WASTE-0012-NPD, Indiana Department of Environmental Management, 20 IND. REG. 3242 (August 1, 1997). The nonrule policy document can be viewed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>

<sup>11</sup> *Staging Policy for Permitted Hazardous Waste Management Facilities*, WASTE-011-NPD, Indiana Department of Environmental Management, 20 IND. REG. 3241 (August 1, 1997). The nonrule policy document can be viewed at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
waste by conducting industrial and landfill inspections, issuing special waste certifications, and providing technical assistance. <sup>12</sup>	Construction/Demolition Guidance on what the special waste exclusion includes <sup>13</sup>	waste if the required information submitted by the generator indicates that: (1) it meets the definition under 329 IAC 10-2-179; (2) the physical, chemical, and variability characteristics of the waste are satisfactorily established; and, (3) disposal of the waste will not significantly impact the environment or adversely affect routine solid waste disposal operations.  The IDEM may impose conditions, such as the method of handling, transportation, or disposal that is necessary to minimize the health, safety, nuisance, or environmental impact of the waste.	Indianapolis, IN 46206 (317) 233-3346 1-800-451-6027	
LAND APPLICATION PERMIT PROGRAM: IDEM OLQ reviews permit applications for land application.	327 IAC 6.1	A land application permit is required for the disposal of any biosolid, industrial waste, or polluted water by application or incorporation into the soil.	IDEM, Office of Land Quality 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8871 1-800-451-6027	327 IAC 6.1
WASTE TIRE MANAGEMENT: A waste tire storage site or processing operation requires a certificate of registration from the IDEM.	IC 13-20-13 IC 13-20-14	An individual who stores waste tires must do so in a manner that “does not pose a threat to human health or the environment, does	IDEM, Office of Land Quality 100 N. Senate Ave. PO Box 6015	IC 13-20-13 IC 13-20-14

<sup>12</sup> Information obtained from the IDEM OLQ web site at <http://www.state.in.us/idem/olq/index.html>.

<sup>13</sup> This guidance can be read at <http://www.state.in.us/idem/olq/publications/guidance/index.html>.



Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
		not pose a fire hazard, and controls vectors that pose a threat to human health.” Operators of storage or processing facilities must report annually to the IDEM regarding the number of tires accepted or transferred. In addition a contingency plan must be maintained to protect health and the environment. Tires are not to be disposed of in a solid waste landfill	Indianapolis, IN 46206 (317) 232-8871 1-800-451-6027	
SOLID WASTE MANAGEMENT DISTRICTS: Each coastal county operates a solid waste management district.	IC 13-21-3	Counties are required to establish solid waste management districts by county ordinance.	Lake County SWMD 1473 E. 84 <sup>th</sup> Pl. Merrillville, IN 46410 (219) 769-3820  Porter County SWD 155 Indiana Ave. Valparaiso, IN 46383 (219) 465-3694  LaPorte County SWMD 2354 N. US HWY 35 LaPorte, IN 46350 (219) 326-0014	Not applicable.

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
State Framework for Cleanup of Unregulated Hazardous Waste Disposal Sites				
SUPERFUND PROGRAM: IDEM works cooperatively with US EPA as the lead or support agency to remediate hazardous waste sites listed on the National Priorities List through the application of Federal or State authorities. Perform long-term operation and maintenance of remedies.	IC 13-25-4	Cleanup standards include Excess Cancer Risk no greater than $1 \times 10^{-4}$ to $1 \times 10^{-6}$ . Hazard Index (non-cancer risk) no greater than 1.	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3113 1-800-451-6027	IC 13-25
STATE CLEANUP PROGRAM: Conducts the investigation and cleanup of priority sites contaminated with hazardous substances or petroleum not listed on the national priority list.	IC 13-24-1 IC 13-25-4 329 IAC 7-1	Sites are evaluated and ranked for cleanup according to the Indiana Scoring Model established by rule.	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3090 1-800-451-6027	IC 13-24-1 IC 13-25-4
HAZARDOUS SUBSTANCES RESPONSE TRUST FUND: Money is available through the fund to cleanup sites contaminated with hazardous substances and establish liability for potentially responsible parties (PRPs). In addition the statute authorizes IDEM to recover its costs associated with the cleanups from the fund.	IC 13-25-4-1	Funding can be used to: (1) enter contracts between Indiana and the US government; (2) provide state assistance to prevent the release of hazardous substances or remove hazardous substances already released; (3) pay expenses related to releases other than petroleum from underground storage tanks; (4) pay administrative and personnel	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3090 1-800-451-6027	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		costs of the state for responding to releases of hazardous substances; (5) pay eligible reimbursements; and, (6) provide grants for household hazardous waste and disposal projects under IC 13-20-20.		
EMERGENCY RESPONSE: IDEM provides assistance in emergency situations caused by a discharge or threat of discharge of any contaminate into the air, land, or waters of Indiana if the situation will cause significant danger to public health or the environment.	IC 13-14-10-3 IC 13-25-2-6 IC 13-25-4-1  327 IAC 2-6.1 327 IAC 2-10 329 IAC 3-18 329 IAC 3-49-7 329 IAC 9-4-4	IDEM may order and provide assistance to abate or remedy an emergency, on private or public property, caused by the discharge or impending discharge of any contaminant into or on the air, land, or waters of Indiana that poses an imminent and substantial danger to public health or the environment whenever: (1) the assistance must be immediate to be efficacious; and, (2) any person responsible for abatement or remedying the emergency cannot be determined or located; or has refused or failed to take prompt and effective action to abate or remedy the emergency.	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3024 1-800-451-6027	Not applicable.
DEFENSE ENVIRONMENTAL RESTORATION PROGRAM: Investigation and cleanup of active and closing military bases at which hazardous substances were used, stored, or	IC 13-23 IC 13-25  329 IAC 9	Standards applicable to underground storage tanks are also applicable to the Defense Environmental Restoration Program where underground	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015	IC 13-23 IC 13-25  329 IAC 9

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
disposed.		storage tanks are involved.	Indianapolis, IN 46206 (317) 308-3130 1-800-451-6027	
NATURAL RESOURCE DAMAGE ASSESSMENT: Natural resource damage assessment is a process by which designated Trustees examine injuries to natural resources in an area caused by the release of hazardous substances or oil. Natural resource damages include damages to land, fish, wildlife, air, water, groundwater, drinking water supplies, and other natural resources.	42 USC 9601, et seq. 33 USC 2701, et seq. 33 USC 1251, et seq.  Public Trust Doctrine	Under the authority of CERCLA and the Clean Water Act, the Department of the Interior has issued regulations for conducting damage assessments following the discharge of oil or the release of hazardous substances.	IDEM 100 N. Senate Ave. P.O. Box 6015 Indianapolis, IN 46206 (317) 308-3003 1-800-451-6027  DNR 402 W. Washington St. Rm. W256 Indianapolis, IN 46204 (317) 232-4020	Not applicable.
VOLUNTARY REMEDIATION PROGRAM: Provides for voluntary cleanup of contaminated property. When the cleanup is successfully completed, IDEM will issue a Certificate of Completion. The Governor's Office will issue a Covenant Not to Sue. These documents provide assurance that the cleaned areas will not become the subject of future IDEM enforcement action. Any site owner or operator, or prospective owner who wishes to clean up property contaminated with petroleum or hazardous substances is potentially eligible to participate in VRP.	IC 13-25-5  VOLUNTARY REMEDIATION PROGRAM RESOURCE GUIDE (October 1995).	For an application to the program to be eligible, the following conditions must be met: (1) be on a form provided by the department; (2) contain general information concerning the person, the site, and other background information as requested by the department; (3) include an environmental assessment of the actual or threatened release of the hazardous substance or petroleum at the site; and, (4) be accompanied by an application fee \$1,000. A political subdivision is not required to	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3363 1-800-451-6027	IC 13-25-5

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
		submit an application fee.		
<b>Underground Storage Tanks</b>				
UNDERGROUND STORAGE TANK PROGRAM: Ensures regulated underground storage tanks meet the EPA's requirements for leak detection, spill, and overflow prevention and corrosion protection, and ensures that tanks not meeting those requirements are properly closed or upgraded. The program also provides education and assistance to underground storage tank owners and operators to encourage and promote voluntary compliance. <sup>14</sup>	IC 13-11 IC 13-23  329 IAC 9  UST Notification, Reporting, and Closure Requirements <sup>15</sup>  UST GUIDANCE MANUAL (October 1994)	In order to prevent releases due to structural failure, corrosion, or spills and overfills all owners and operators of new UST systems must meet the following requirements: (1) All tanks and piping must be properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory set forth in 40 CFR 280.20 and in accordance with the manufacturer's instructions. (2) All owners and operators must demonstrate compliance by providing a certification of compliance on the underground storage tank notification form required by rule. The certification must demonstrate that the installer has been certified by the fire marshal. Any release or suspected release must	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3080 1-800-451-6027	IC 13-11 IC 13-23  329 IAC 9

<sup>14</sup> More information about the Underground Storage Tank Program can be accessed at <http://www.state.in.us/idem/olq/programs/lust/index.html>.

<sup>15</sup> These guidelines prepared by IDEM can be read at <http://www.state.in.us/idem/olq/programs/lust/index.html>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		be reported to IDEM within 24 hours.		
LEAKING UNDERGROUND STORAGE TANK PROGRAM: Provides for investigation, assessment, and remediation at any site where emergency conditions are present and sites with prioritized human health and environmental risks. The program also educates and assists tank owners and operators and their consultants in order to encourage and promote voluntary clean up of tank system releases. <sup>16</sup>	IC 13-11 IC 13-23  310 IAC 16 329 IAC 9	Upon confirmation of a release or after a release from the UST system is identified in any other manner, owners and operators must perform the following initial response actions within 24 hours of a release or within a reasonable time period specified by the agency: (1) report the release to the agency; (2) take immediate action to prevent any further release of the regulated substance into the environment; and, (3) identify and mitigate fire, explosion, and vapor hazards.	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3080 1-800-451-6027	IC 13-11 IC 13-23  310 IAC 16 329 IAC 9
UNDERGROUND PETROLEUM STORAGE TANK EXCESS LIABILITY TRUST FUND: Assists owners and operators of underground petroleum storage tanks to establish evidence of financial responsibility and remediation through financial reimbursement.	IC 13-23-7-1 IC 13-23-11  328 IAC	Funding may be used to: (1) assist owners and operators of underground petroleum storage tanks to establish evidence of financial responsibility; (2) provide a source of money to satisfy liabilities incurred by owners and operators of underground petroleum storage tanks for corrective action; (3) provide a source of money for a loan guaranty; (4) provide a source of money for the	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3080 1-800-451-6027	Not applicable.

<sup>16</sup> More information about the Leaking Underground Storage Tank Program can be accessed at <http://www.state.in.us/idem/olq/programs/lust/index.html>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		indemnification of third parties; and, (5) provide a source of money to pay for the expenses of the IDEM incurred in paying and administering claims against the trust fund.		
UNDERGROUND PETROLEUM STORAGE TANK TRUST FUND: Accumulation of funds including revenue from the underground petroleum storage tank registration fee and costs recovered from corrective actions.	IC 13-23-6	Funds may be used to reimburse IDEM costs of corrective action and enforcement.	IDEM, Office of Environmental Response 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 308-3363 1-800-451-6027	Not applicable.
Pollution Prevention, Recycling, and Reuse of Materials				
TOXIC RELEASE INVENTORY: Qualified facilities are required to report releases and transfers of toxic chemicals to IDEM annually. Information is stored in a database and used to measure progress of pollution prevention. Facilities are also required to report similar information to EPA.	IC 13-22-11 IC 13-25-2  Rules?	Industries required to report: (1) are a manufacturing facility in Standard Industrial Codes (SIC) 20 –39; (2) have the equivalent of 10 full-time employees; (3) handle chemicals on the TRI list of 650 specific toxic chemicals or chemical categories; and, (4) manufacture or process more than 25,000 lbs. of the chemical or use more 10,000 lbs. during the year.	IDEM, Office of Pollution Prevention and Technical Assistance 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 233-5433	Not applicable.
POLLUTION PREVENTION TRAINING AND RESEARCH: Education on pollution prevention as well as research of	IC 13-27-2-12 IC 13-27.5-1	The Institute may: (1) conduct research studies and programs; (2) collect and analyze data; and,	Indiana Clean Manufacturing Technology and Safe	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
prevention methods and methods to measure progress of prevention. <sup>17</sup>		(3) prepare reports, charts, and tables.	Materials Institute 2655 Yeager Rd., Ste. 103 West Lafayette, IN 47906 (765) 463-4749	
RECYCLING PROMOTION AND ASSISTANCE FUND <sup>18</sup> : Provides loans to businesses that operate in Indiana to enhance the development of markets for recyclable materials. The loans are available for the acquisition and installation of specialized manufacturing equipment and machinery or the conversion of existing equipment and machinery for the manufacturing of products that contain recycled materials or for the final processing of secondary materials. Available funding is the lesser of \$500,000 or 50% of the total eligible project costs.	IC 4-23-5.5-14	(1) Private-sector investment must be made. (2) Terms can be up to 10 years or the life of the asset, whichever is less. (3) % INTEREST RATE is at or below prime. (4) At least a 10% equity investment is required.	Indiana Department of Commerce, Energy Policy Division One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8940	Not applicable.
ALTERNATE ENERGY SYSTEMS PROGRAM <sup>19</sup> : Offers grants to businesses to fund eligible alternative-fuel technologies and infrastructure development.	IC 4-4-3-8(a)	Eligible technologies include but are not limited to alternative fuels, landfill methane outreach, agricultural applications, geothermal heat pumps, wood waste boilers and solar repair and service.	Indiana Department of Commerce, Energy Policy Division One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8940	Not applicable.

<sup>17</sup> Additional information about the Safe Materials Institute can be found at <http://www.ecn.purdue.edu/cmti.html>.

<sup>18</sup> More information about the Recycling Promotion and Assistance Fund can be found at <http://www.state.in.us/doc/energy/recycling.html>.

<sup>19</sup> More information on Indiana Department of Commerce grant programs for energy efficiency and recycling can be obtained from <http://www.state.in.us/doc/energy/index.html>.



<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
INDUSTRIAL ENERGY EFFICIENCY FUND: Loans for improving energy efficiency in industrial processes.	IC 4-23-5.5-15(a)	Maximum of seven years or the life of the asset, whichever is less. Interest rate is 0%. Repayment terms may be tied to projected energy-cost saving.	Indiana Department of Commerce, Energy Policy Division One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8940	Not applicable.
NATIONAL INDUSTRIAL COMPETITIVENESS THROUGH ENERGY, ENVIRONMENT AND ECONOMICS GRANT: Federal grants, with possible state matching funds, to improve energy efficiency, promote a cleaner production process and improve the competitiveness of industry.	IC 4-4-3-8(a)	The maximum amount of federal grant available per applicant is \$400,000. State funds can be leveraged with this program, and all state funding requests are considered. A 55% match is required.	Indiana Department of Commerce, Energy Policy Division One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8940	Not applicable.
TIRE RECYCLING MARKET DEVELOPMENT PROGRAM: Grants to businesses involved in the production of a product that uses scrap tires as a feedstock	IC 4-4-3-8(a)	Recycled Tire Product Marketing grants up to \$20,000. Recycled Tire Product Procurement grants up to \$40,000. At least 50% match is required.	Indiana Department of Commerce, Energy Policy Division One North Capitol Ste. 700 Indianapolis, IN 46204 (317) 232-8940	Not applicable.
JUMPSTART GRANTS PROGRAM <sup>20</sup> : Provides financial assistance to Solid Waste Management Districts for basic education and promotion projects.	IC 13-27-2-10	Project categories include: Business Source Reduction/Recycling Public Education/Promotion Household Hazardous Waste Education/Promotion School Education and Teacher Training	IDEM, Office of Pollution Prevention and Technical Assistance 150 W. Market St., Suite 703, PO Box 6015 Indianapolis, Indiana	Not applicable.

<sup>20</sup> More information regarding IDEM recycling grants can be obtained from <http://www.state.in.us/idem/oppta/>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		Buy Recycled	46206-6015 (317) 232-8172	
MODEL GRANTS PROGRAM: Financial assistance for Solid Waste Management Districts, municipalities, non-profit groups colleges, universities, K-12 schools, and Indiana Businesses.	IC 13-27-2-10	Eligible projects include those that address significant solid waste management needs which have not been met in the region and would serve as models in other parts of the state.	IDEM, Office of Pollution Prevention and Technical Assistance 150 W. Market St., Suite 703, PO Box 6015 Indianapolis, Indiana 46206-6015 (317) 232-8172	Not applicable.
TRADITIONAL GRANTS PROGRAM: Financial assistance for Solid Waste Management Districts, municipalities, non-profit groups, colleges, universities, and K-12 schools.	IC 13-27-2-10		IDEM, Office of Pollution Prevention and Technical Assistance 150 W. Market St., Suite 703, PO Box 6015 Indianapolis, Indiana 46206-6015 (317) 232-8172	Not applicable.
HOUSEHOLD HAZARDOUS WASTE GRANTS PROGRAM: Financial assistance for Solid Waste Management Districts and municipalities for household hazardous waste reduction, collection, and proper disposal programs.	329 IAC 8-6-1	The IDEM considers the following: (1) a formal commitment to an annual household hazardous waste collection and disposal program; (2) an effective education program directed to the proper handling, storage, disposal, and reduction of household hazardous wastes; (3) participation in other hazardous	IDEM, Office of Pollution Prevention and Technical Assistance 150 W. Market St. Ste. 703 PO Box 6015 Indianapolis, IN 46206 (317) 232-8172	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		waste collection and disposal programs; and, (4) information provided on an education project concerning nonhazardous and nontoxic substitutes for household hazardous products. Priority will be given to applications including education programs. The grant awarded may not exceed 50% of the total eligible costs estimated in a grant application. The grant must be matched by an applicant's financial or in kind contributions.		
POLLUTION PREVENTION TECHNICAL ASSISTANCE: Assistance is provided in public education, school curriculums, full cost accounting, volume-based disposal rates, source reduction, buy recycled, reuse suggestions, yard waste management, material markets, collection and processing issues, materials exchange, construction and demolition, business waste reduction, and business source reduction.	IC 13-14-1		IDEM, Office of Pollution Prevention and Technical Assistance 150 W. Market St. Set. 703 PO Box 6015 Indianapolis, IN 46206 (317) 232-8172	Not applicable.
INDIANA MATERIALS EXCHANGE <sup>21</sup> : Facilitates recycling and reuse of industrial and commercial waste by		Listings are maintained for a wide variety of materials organized into 17 individual	Indiana Materials Exchange 133 W. Market St.	Not applicable.

<sup>21</sup> To view the Indiana Material Exchange listings or post an item on a list, see <http://www.state.in.us/idem/oppta/imex/>

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
maintaining and distributing listings of materials available and materials wanted. The service is provided by Waste Alternatives Inc. and is funded by the IDEM. The listing service is provided free of charge to users.		categories.	Box 263 Indianapolis, IN 46204 1-800-968-8764	
COMPLIANCE AND TECHNICAL ASSISTANCE PROGRAM (CTAP) <sup>22</sup> : Assists regulated entities achieve compliance and promotes cooperation between IDEM and regulated entities. CTAP is comprised of several offices within IDEM but is primarily administered through the Office of Pollution Prevention and Technical Assistance (OPPTA).	IC 13-14-1	CTAP focuses on early education and outreach efforts to businesses and small communities to make them aware of new and existing regulations. CTAP provides compliance assistance as well as pollution prevention opportunities to get small businesses out of the regulatory loop or into less burdensome regulatory processes.	IDEM, Office of Pollution Prevention and Technical Assistance, Compliance and Technical Assistance 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8172  IDEM, Northwest Office Compliance and Technical Assistance 504 N. Broadway Ste. 418 Gary, IN 4640-1942 (219) 881-6720	Not applicable.
INDIANA DRY CLEANER COMPLIANCE ASSURANCE PROGRAM (IDCAP): Focuses on the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Perchloroethylene Dry Cleaners.		This regulation imposes new record keeping, reporting and emission control requirements on all of Indiana's perchloroethylene drycleaning facilities. IDEM provides	IDEM, Office of Pollution Prevention and Technical Assistance 100 N. Senate Ave. PO Box 6015	Not applicable.

<sup>22</sup> The Compliance and Technical Assistance Program information was obtained from <http://www.state.in.us/idem/oppta/index.html>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		technical assistance to these businesses to meet requirements. <sup>23</sup>	Indianapolis, IN 46204 (317) 232-8172	
INDIANA 5 STAR RECOGNITION PROGRAM: Voluntary program that recognizes dry cleaners taking steps to protect the environment beyond what is required. Participants are ranked on a scale of one to five stars for such things as minimizing use of solvents and managing waste responsibly. Cleaners must apply to IDEM and reapply every two years. <sup>24</sup>		One Star: Reduce use of solvent. Respond in a timely manner to questions and complaints about solvent. Use a hazardous waste hauler for hazardous waste even if exempt. Two Stars: Recycle hangers and bags from customers. Provide brochure on waste management. Conduct annual employee hazardous communication training. Three Stars: Use recycled bags. Attend annual IDEM training. Report solvent mileage. Four Stars: Consistently achieves 450 solvent mileage and posts this information in the store. Five Stars: One person achieves Certified Environmental Drycleaner. Demonstrate environmental leadership.	IDEM, Office of Pollution Prevention and Technical Assistance 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46204 (317) 232-8172	Not applicable.
POLLUTION PREVENTION POTW GRANT PROGRAM: Noncompetitive grants of \$5,000 are available to Indiana communities with approved pretreatment	IC 13-27-2-10	Only projects that support and sustain clean manufacturing by working with manufacturers (indirect dischargers) are	IDEM, Office of Pollution Prevention and Technical Assistance	Not applicable.

<sup>23</sup> Additional information about this program is available at <http://www.state.in.us/idem/ctap/>

<sup>24</sup> More information about the Drycleaners Recognition Program can be found at <http://www.state.in.us/idem/oppta/govawards/index.html>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
programs. Provides an incentive to POTWs with approved pretreatment programs to prepare pollution prevention opportunity assessments for 25 percent of their significant industrial users before 2001.		eligible.	150 West Market St. Ste. 703 Indianapolis, IN 46206 (317) 233-6661	

## Section 5-9: Air Quality

Between the later 1800s and World War I, the growth of modern industrial cities such as Chicago led to air quality degradation. Northwest Indiana, located at the southern end of Lake Michigan, has a particular susceptibility to atmospheric heat inversions that trap sediments. The problem has been aggravated by the profound scale of major industries and by the density of motor vehicle traffic.

The development of the federal Clean Air Act is the primary regulatory component directed toward improving air quality. Standards have been issued under this authority for six pollutants: (1) ozone; (2) carbon monoxide; (3) particulate matter less than ten microns in size; (4) sulfur dioxide; (5) nitrogen dioxide; and, (6) lead.

Since the 1970s, major improvements have occurred in Northwest Indiana with respect to many of these pollutants. Others (most notably ozone) have proven difficult targets. The mobility of air requires a solution to air pollution on a wide geographic scale, although additional progress can also be made locally.

The most pervasive air quality concerns in Northwest Indiana are those posed by an overall regional atmospheric degradation. Although the Area of Concern (AOC)<sup>1</sup> in Lake County is not fully representative of Northwest Indiana, the mobility inherent to air and air pollution makes a review of problems within the AOC in the following paragraphs, relative to the six Clean Air Act criterion pollutants, particularly noteworthy.

Lake County shares ozone problems with the rest of the Chicago Metropolitan area. These problems are largely due to a heavy industrial base, large population, heavy motor vehicle traffic, and unique meteorological conditions caused by the presence of Lake Michigan. Lake County is included within the Chicago-Northwest Indiana severe non-attainment area for ozone. Highest ozone levels are often recorded during extremely hot summers, such as were experienced in 1988 and 1995.<sup>2</sup>

Since carbon monoxide represents loss of fuel, there are also economic incentives for stationary sources to reduce emissions. In some industrial processes, such as iron and steel production and petroleum refineries, carbon monoxide is collected and used in waste-heat recovery systems.

The control of carbon monoxide in motor vehicles is more complicated because an engine must be operating at optimum performance. Often a tune-up will help reduce vehicle emissions. IDEM has not monitored an exceedance for carbon monoxide in more than ten years.<sup>3</sup>

Particulate emissions have historically been a significant concern in Lake County, and the county continues to have the most serious particulate pollution in the State. In the 1970s and 1980s, ambient levels of total suspended particulates exceeded health standards frequently and by significant margins. In 1993, IDEM completed a rule-making process that established new emission limitations for sources in Lake County to meet federal standards for particulate matter less than ten microns in size.

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<sup>1</sup> For a discussion of Areas of Concern and Indiana's Area of Concern, see Remedial Action Plan for the Grand Calumet River, Indiana Harbor Ship Canal, and Near Shore Lake Michigan and the Lakewide Management Plan.

<sup>2</sup> Personal communication from Michael Brooks, Air Programs Branch, Indiana Department of Environmental Management (February 1999).

<sup>3</sup> Draft RAP, 16, 17.

IDEM has begun implementing a strategy to control major stationary sources of particulate matter, including operations at the steel mills. An example of an event that has reduced particulate matter is the closure of the Inland Steel coke batteries. These efforts have resulted in significant emission reductions. The levels of particulate less than ten microns in Lake County have dropped significantly due to new particulate rules and efforts of Lake County industry.<sup>4</sup> IDEM is beginning to collect air quality monitoring data to assess concentrations of particulate matter 2.5 microns in size. Additional regulatory requirements will not be established, however, until after EPA reviews additional technical information for particulate matter 2.5 microns in size, including emissions and air quality data. This review will not be completed until 2003.<sup>5</sup>

IDEM has developed process specific emission limitations for major stationary boilers located in Lake County. These rules include fuel use restrictions, require the use of lower sulfur fuels, and set emission limits for steel mills, refineries, and other facilities in Lake County. Effective January 1, 2000, two major stationary boilers in Lake County are subject to stricter requirements for the emission of sulfur dioxide: NIPSCO Dean Mitchell and Southern Electric Energy Company (formerly Commonwealth Edison State Line Generating Station). While still classified as a nonattainment area, IDEM has not monitored an exceedance for sulfur dioxide in Lake County since 1985.<sup>6</sup>

Concerns about acid rain have motivated the requirement of nitrogen oxide reductions from large utility and industrial boilers. Modeling has demonstrated that a reduction in nitrogen oxides would actually increase peak ozone levels in Indiana, Illinois, and Wisconsin. As a result, the EPA in early 1996 granted a conditional waiver of the nitrogen oxides standards in this area. The waiver may be withdrawn if a larger-scale modeling project now underway demonstrates the local reduction of nitrogen oxides would have significant benefits to the larger region.<sup>7</sup>

Throughout the mid-1990s several Midwestern and Eastern states participated in intensive research and discussion on the regional nature of ozone transport. The research, supported by extensive air quality modeling, determined that transported pollution was affecting the ability of certain areas of the country to meet federal air quality standards. This issue affected mainly states in the eastern United States. As a result of that effort, in September 1998, EPA issued a rule requiring 22 states, including Indiana, to develop regulations to reduce nitrogen oxide emissions. Reduction of NOx emissions will play a vital role in ensuring that air quality throughout the State meets federal air quality standards.<sup>8</sup>

Several process changes at major industrial sources in Lake County have led to a significant reduction of lead concentrations in the atmosphere. IDEM has established process specific emission limitations for the three major industrial sources of lead within the area of concern: Hammond Lead Products (HLP Plant), Hammond Lead Products (Halstab Division), and U.S.S. Lead Refinery in East Chicago. In addition to the process specific emission limitations, the sources were also required to upgrade their ventilation and filtration systems and to operate their buildings under negative pressure to reduce fugitive emissions. Additional measures have been required to control fugitive emissions from storage piles. The Hammond Lead plants have also put into place operational controls and work practices beyond those required by rule to further reduce lead emissions. Also, the U.S.S. Lead Refinery has shut down resulting in a further decrease in the ambient levels of lead. The federal phase out of lead in gasoline has also helped to

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<sup>4</sup> Draft RAP, 7.

<sup>5</sup> Personal communication from Michael Brooks, Air Programs Branch, Indiana Department of Environmental Management (February 1999).

<sup>6</sup> Draft RAP, 14.

<sup>7</sup> Draft RAP, 13, 14.

<sup>8</sup> Personal communication from Michael Brooks, Air Programs Branch, Indiana Department of Environmental Management (February 1999).



significantly reduce emissions of lead. IDEM has not monitored an exceedance of the lead standards since 1986.<sup>9</sup>

Lake and Porter Counties do not meet federal standards for attainment under the Clean Air Act; however, efforts continue to improve Northwest Indiana's status. The State participates in the EPA Northwest Indiana Geographic Initiative providing assistance to carry out the Northwest Indiana Action Plan. This section explains the tools used to improve air quality in the coastal area and prevent harmful releases of toxics into the atmosphere.

## Managed Activities

- Any process, system, or practice that may be a source of air pollution.

## Background

Beginning in the 1880s, the courts in the industrial East and Midwest showed a growing willingness to hold industries responsible for the social costs of air pollution. "[M]any of the reported court decisions of this post-1880 period favored the interests of plaintiffs over those of polluters. Of the cases that eventually reached the appellate level, many not only reflected a belief that unchecked industrial growth was a prime reason for the pollution problem; they also displayed an unprecedented judicial willingness to use law as a means of slowing the economic expansion that had caused polluted air."<sup>10</sup>

In the case of air pollution, the first legislative bodies to take affirmative action were the common councils of large industrial municipalities. "People saw dirty air as a local problem, not a regional or national concern." These early ordinances were generally ineffective. Despite their lack of effectiveness, however, or perhaps because of it, most early 20<sup>th</sup> century municipal ordinances withstood constitutional attacks on their validity.<sup>11</sup> As one court said in upholding a 1903 Chicago ordinance dealing with smoke:

It seems clear that all regulations of the uses of property should be created with a reasonable reference to the necessary demands of trade or manufacturing. . . . But, while it is difficult to adjust the exact rights of business interests and public good, once adjusted, society has the power to assert itself for the protection of itself.<sup>12</sup>

In 1961, significant state legislation was enacted in Indiana to help address air pollution. The legislation created the Air Pollution Control Board (APCB) within the Indiana State Board of Health. The APCB was authorized to enter "such order as may require the taking of such action as is indicated. . . to cause the abatement" of air pollution. Yet this legislation continued to view air pollution as primarily a local problem for primarily local resolution. "It is the intention of this Act that primary responsibility for the control of emission of air contaminants into the atmosphere shall rest with the responsible local government agency and that affirmative, remedial action by the State shall be taken only in those areas of this State where no local air pollution law" exists.<sup>13</sup>

Six years later, fewer than ten local air-pollution ordinances had been adopted in Indiana, and action by the APCB was characterized as "minimal." Ordinances might not contain penalties for violations. Even where there were "appropriate penalties," such as in the Gary air pollution ordinance, the 1961 legislation

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<sup>9</sup> Draft RAP, 17, 18.

<sup>10</sup> *Legal Institutions and Air Pollution*, NAT. RES. LAW JOURNAL, pp. 430-432 (July 1975).

<sup>11</sup> *Id.*, pp. 433-436.

<sup>12</sup> *Glucose Refining Co. v. Chicago*, 138 Fed. 209 (C.C. Ill. 1905).

<sup>13</sup> Ind. Acts of 1961, Ch. 171.

did not provide a means of enforcement by the APCB where local enforcement was lacking. For the vast majority of Indiana, where no ordinance had been adopted, the APCB lacked air quality standards.<sup>14</sup>

The federal Clean Air Act Amendments of 1970 shifted the emphasis for air pollution control from the local level to the federal and state levels. These amendments were described by the US Supreme Court as “a drastic remedy to . . . [the] otherwise uncheckable problem of air pollution.”<sup>15</sup> The EPA was empowered to set national primary and secondary air quality standards. Compliance with the standards was to be implemented through state plans. “The Act essentially gave the states the initial opportunity to develop a workable and equitable implementation for meeting national standards within the state. In the event the state was unable to present an implementation plan which met statutory requirements, the EPA administrator was authorized to develop its own implementation plan for the state.”<sup>16</sup> This legal structure continues to form the primary foundation for air quality control in Indiana.

## **Implementation of Management Techniques**

The Clean Air Act<sup>17</sup> forms the keystone for regulatory efforts directed to improving air quality. The EPA was authorized to establish nationwide air quality standards and to enforce these standards when states failed to do so. Yet the states were given a primary role to design and achieve the national standards through a state implementation plan (SIP) program. The 1970 amendments also required the states to meet specific attainment deadlines in order to achieve the air quality standards.<sup>18</sup>

When states failed to meet the deadlines under the 1970 amendments, Congress in 1977 again amended the Clean Air Act. The 1977 amendments established new compliance deadlines, requiring states to provide for full attainment of national ambient air quality standards (NAAQS) by specified dates. When not all states complied with the new deadlines, Congress began debating additional amendments. New amendments were passed in 1990, including revisions to the SIP program and new requirements for areas failing to meet the schedules of the 1977 amendments. States failing to meet attainment deadlines became subject to a loss of highway funding and other sanctions.<sup>19</sup>

National primary and secondary air quality standards have been issued by the EPA for air pollution. These include: (1) ozone; (2) carbon monoxide; (3) particulate matter less than ten microns in size (PM-10); (4) sulfur dioxide; (5) nitrogen dioxide; and, (6) lead.<sup>20</sup> Each of the NAAQS is individually established as parts per million concentrations that should not be exceeded. The NAAQS set by EPA are used in conjunction with 42 USC 7407(d) to designate each air quality region of the United States as non-attainment, attainment, or unclassified for each criterion pollutant.

State implementation plans are key to implementing the Clean Air Act. Each state must adopt a SIP that provides for the “implementation, maintenance, and enforcement” of the NAAQS. The EPA has extensive control over the design of, and ultimately must approve, all SIPs. If a state fails to submit a satisfactory SIP, the EPA may devise a federal implementation plan (FIP) for the area.<sup>21</sup> If a FIP is implemented, the EPA may withhold grant money from the state and use the money to implement the

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<sup>14</sup> Comment, *Air Pollution Control in Indiana in 1968*, 2 VAL. UNIV. LAW REVIEW 296 at 298 and 310 (1968).

<sup>15</sup> *Union Electric Co. v. EPA*, 427 U.S. 246, 256.

<sup>16</sup> *Sierra Club v. Indiana-Kentucky Elec. Corp.*, 716 F.2d 1145, 1146-1147 (7<sup>th</sup> Cir. 1983).

<sup>17</sup> 42 USC 7401 – 7671.

<sup>18</sup> Mitchell, *Transportation Planning and the Clean Air Act*, 25 ENVTL. L. 927, 929 (Summer 1995).

<sup>19</sup> Mitchell, *Transportation Planning and the Clean Air Act*, 930.

<sup>20</sup> 40 CFR 50.

<sup>21</sup> 42 USC 7401(c).

FIP.<sup>22</sup> In addition, the EPA may withhold highway funding and make the approval of new or expanded facilities within a nonattainment area more difficult for commercial interests.<sup>23</sup>

Instead of imposing a federal implementation plan, the EPA may grant conditional approval to a state implementation plan. This authority may be used where states are having difficulty meeting the strict deadlines of the Clean Air Act or where a SIP conforms substantially to federal requirements but lacks minor details for complete approval.<sup>24</sup>

Attainment status designations for the states and for regions of the United States are set forth by EPA through the adoption of regulations. Attainment status for Indiana counties, and for portions of some counties, is set forth at 40 CFR 81.315. For example, Lake County and Porter County are listed in the regulation as nonattainment, severe 17, for ozone (one-hour standard). This federal regulation is incorporated by reference into Indiana rule, and as a consequence, forms an enforceable element of state law.<sup>25</sup>

In Indiana, the state agency responsible for implementing the Clean Air Act and for otherwise protecting air quality is IDEM. The Indiana Air Pollution Control Board is charged with adopting rules for implementation of both the Indiana and federal clean air laws.<sup>26</sup> Detailed rules have been adopted to address ambient air quality standards,<sup>27</sup> episode alert levels,<sup>28</sup> permit review standards,<sup>29</sup> monitoring requirements,<sup>30</sup> opacity standards,<sup>31</sup> sulfur dioxide standards,<sup>32</sup> volatile organic compound standards,<sup>33</sup> new source performance standards,<sup>34</sup> motor vehicle emission and fuel standards,<sup>35</sup> emission standards for hazardous air pollutants,<sup>36</sup> lead standards,<sup>37</sup> asbestos management at schools,<sup>38</sup> mobile source rules,<sup>39</sup> acid deposition control,<sup>40</sup> and stratospheric ozone protection.<sup>41</sup>

A variety of control measures are pursued by IDEM and local private and public entities to address air pollution. Since the mid-1990s, several important measures have been put in place in Northwest Indiana. These measures are intended to reduce emissions of volatile organic compounds (VOCs) and nitrogen oxides (NOx), the two main precursors to ozone formation. High ozone is one of the key air pollution issues for Northwest Indiana.<sup>42</sup>

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<sup>22</sup> *Illinois Environmental Protection Agency v. U.S. Environmental Protection Agency*, 947 F.2d 283 (7th Cir. 1991).

<sup>23</sup> Personal communication with Janet McCabe, Air Program Branch, Indiana Department of Environmental Management (September 1996).

<sup>24</sup> Mitchell, *Transportation Planning and the Clean Air Act*, cited previously at 932.

<sup>25</sup> 326 IAC 1-4-1.

<sup>26</sup> IC 13-17-3.

<sup>27</sup> 326 IAC 1-3.

<sup>28</sup> 326 IAC 1-4.

<sup>29</sup> 326 IAC 2.

<sup>30</sup> 326 IAC 3.

<sup>31</sup> 326 IAC 4.

<sup>32</sup> 326 IAC 5.

<sup>33</sup> 326 IAC 6.

<sup>34</sup> 326 IAC 12.

<sup>35</sup> 326 IAC 13.

<sup>36</sup> 326 IAC 14.

<sup>37</sup> 326 IAC 15.

<sup>38</sup> 326 IAC 18.

<sup>39</sup> 326 IAC 19.

<sup>40</sup> 326 IAC 21.

<sup>41</sup> 326 IAC 22.

<sup>42</sup> Personal communication with Janet McCabe, Air Program Branch, Indiana Department of Environmental Management (January 1996).

### Open Burning

Burning materials so that smoke and other “air contaminants” are emitted directly into the air, without passing through a stack or chimney from an enclosed chamber, is an “open burn.”<sup>43</sup> IDEM encourages alternatives to open burning, such as sale, reuse, or in the case of yard waste, composting.<sup>44</sup> Open burning is prohibited except as authorized by statute and rules adopted by the Air Pollution Control Board.<sup>45</sup>

There are several exemptions from the open burning prohibition. Open burning may be performed under some circumstances, where a safety or health hazard is not posed such as to control onsite vegetation from a farm, orchard, nursery, or along a drainage ditch. The DNR may perform prescribed burning for wildlife habitat or natural area management. Similarly, burning may be performed according to the National Park Service Fire Management Plan for the Indiana Dunes National Lakeshore. Law enforcement officials may burn marijuana. An authorization may be granted by IDEM to conduct fire training, remove natural growth for a change in land use, or to dispose of highly explosive or other dangerous materials.<sup>46</sup>

Because ozone levels have been determined to be unsafe in Lake County and Porter County,<sup>47</sup> private residential open burning is prohibited in these locations.<sup>48</sup> One exception is that open burning may be approved by a local unit of government in October through December (after “ozone season” has ended) for rural areas where leaf pickup is unavailable.<sup>49</sup> Open burning is also prohibited in apartment and condominium complexes and in mobile home parks.<sup>50</sup>

### Cars and Other Mobile Sources

Cars and mobile sources are one piece of the air pollution puzzle. One important strategy for controlling emission from cars and other mobile sources has been the development and implementation of an enhanced vehicle inspection and maintenance program.

Lake County and Porter County have had a vehicle inspection and maintenance program for a number of years. The enhanced vehicle emissions testing program was implemented in January 1997. In general terms, the rules apply to vehicle models 1976 and newer but with several exemptions, including those for heavy duty motor vehicles, motorcycles, farm tractors, recreational vehicles, and motor vehicles powered with diesel fuel.<sup>51</sup> Additionally, based on testing data, the four most recent model years of automobiles are exempted from the testing requirements.

### Gasoline Pump Vapor Capture

The Clean Air Act requires use of Stage II vapor recovery in areas designated as severe non-attainment of the one-hour ozone standard. This control measure requires installation of vapor recovery devices on gasoline pumps at service stations to capture vapors that would otherwise escape into the atmosphere

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<sup>43</sup> 326 IAC 4-1-0.5. 19 IND. REG. 3340 (Sep. 1, 1996).

<sup>44</sup> Personal communication with Janet McCabe, Air Program Branch, Indiana Department of Environmental Management (January 1996).

<sup>45</sup> IC 13-17-9. 326 IAC 4-1-2. 19 IND. REG. 3341 (Sep. 1, 1996).

<sup>46</sup> 326 IAC 4-1-3 and 326 IAC 4-1-4.1. 19 IND. REG. 3342-3343 (Sep. 1, 1996).

<sup>47</sup> Custom Connect (Telephone: 317-630-3844) to Open Burning, Indiana Department of Environmental Management (Exchange 7026) (September 1996).

<sup>48</sup> 326 IAC 4-1-3(c)(2) and 326 IAC 4-1-4.1(c). 19 IND. REG. 3342-3344 (Sep. 1, 1996).

<sup>49</sup> Personal communication with Janet McCabe, Air Program Branch, Indiana Department of Environmental Management (January 1996).

<sup>50</sup> 326 IAC 4-1-3(c)(2). 19 IND. REG. 3342 (Sep. 1, 1996).

<sup>51</sup> 18 IND. REG. 2729 through 2737 (August 1, 1995).

during vehicle refueling. In Lake and Porter Counties, a “retail or commercial gasoline dispensing operation” must demonstrate compliance with standards established for a Stage II vapor recovery system.<sup>52</sup>

### Ozone Forecasting Program

IDEM works with Michigan, Illinois, and Wisconsin to forecast ozone conditions for the southern Lake Michigan region. Meteorologists for the four states generally hold ozone-forecasting calls every Monday, Wednesday, and Friday from early May through September. They evaluate weather conditions and determine whether there are likely to be high ozone levels on the following day. If so, the states call an “Ozone Action Day.” An “Ozone Action Day” is called when the states expect one-hour ozone concentrations to be at least 100 parts per billion at any of the region’s ozone monitors. A new eight-hour ozone standard is 85 parts per billion. Both the one-hour and the eight-hour standards apply in Lake County and Porter County.<sup>53</sup>

### Sinter Plants

Sintering processing at integrated iron and steel manufacturing sources in Lake and Porter Counties were recently subjected to special air quality standards. “Sinter” refers to a coherent mass formed by heating raw materials such as iron ore, coke breeze, limestone, scale, and blast furnace flue dust.<sup>54</sup> On any day when ozone levels are expected to be high in Lake, Porter, or LaPorte Counties, additional restrictions are placed on the levels of emissions from sinter plants. IDEM has developed a guidance document that authorizes owners and operators of sinter plants to apply the ozone-forecasting program or to present their own forecasts for high ozone days.<sup>55</sup>

### Partners for Clean Air

The Indiana Department of Environmental Management and the State of Illinois in 1995 began a voluntary summertime ozone reduction program in Northeast Illinois and Northwest Indiana called Partners for Clean Air. Partners for Clean Air is a voluntary coalition of businesses, industries, municipalities, and organizations committed to reducing ozone levels in Northwest Indiana and the Chicago region.

A primary goal is to increase awareness about ozone and contributions that citizens and businesses can make to reduce harmful emissions. A comprehensive list of actions that citizens and businesses can take has been developed by IDEM, including the “Top 10 Tips” for reducing ground-level ozone on Ozone Action Days. Other ways in which citizens can help (at home, on the road, and in the workplace) to reduce summertime ozone levels in Northwest Indiana are identified and updated on IDEM’s Partners for Clean Air website.<sup>56</sup>

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<sup>52</sup> 326 IAC 2-11-2.

<sup>53</sup> *Guidance to Predicting a High Ozone Level Day for Sources Subject to 326 IAC 8-13, Air-020-NPD*, Indiana Department of Environmental Management, 22 IND. REG. 1290 (January 1, 1999).

<sup>54</sup> 326 IAC 8-13. This rule became effective on July 24, 1998.

<sup>55</sup> *Guidance to Predicting a High Ozone Level Day for Sources Subject to 326 IAC 8-13, Air-020-NPD*, Indiana Department of Environmental Management, 22 IND. REG. 1290 (January 1, 1999).

<sup>56</sup> The Partners for Clean Air web address is <http://www.state.in.us/idem/oam/programs/partners/partners.html>.

### Smog Watch

IDEM now provides online information concerning ozone levels in Northwest Indiana, including real time monitoring data during the summer ozone season. This information may be accessed through IDEM's Smog Watch website.<sup>57</sup>

### Indiana's Air Toxics Program

The federal air toxics program within the Clean Air Act lists 189 hazardous air pollutants. The Clean Air Act mandates that the EPA establish technology-based control standards for numerous categories of sources as part of the National Emission Standards for Hazardous Air Pollutants (NESHAPs).

IDEM is developing a comprehensive statewide program to reduce emissions of hazardous air pollutants. Incorporation of the NESHAPs and other federal and state air toxics regulations is part of the program. IDEM has received delegated authority for several NESHAPs and will continue to seek delegation of future federal standards and programs.<sup>58</sup>

IDEM conducts monitoring of air toxics under Title I and Title III of the Clean Air Act. Ozone precursors are monitored in regions that are nonattainment for ozone according to Title I. Under Title III, activities related to hazardous air pollutants, maximum available control technology, residual risk standards, prevention of accidental releases, and risk assessment and management are monitored.<sup>59</sup>

Special purpose monitoring is done by IDEM in three situations: (1) EPA suggested and mandated program requirements; (2) agency program requirements such as reclassification of counties from nonattainment to attainment status; and, (3) complaint monitoring to address complaints from private citizens, industries, local agencies and other IDEM program areas.

### Indiana Air Permitting Guide

The Indiana Chamber of Commerce in 1998 published, as a joint effort with the Indiana Department of Environmental Management, a guidebook to assist Indiana's business community in obtaining "accurate and timely compliance information." The publication<sup>60</sup> provides ambitious discussions of new source reviews, operating permits, and permit fees. Although the publication has statewide application, items of particular interest to Northwest Indiana business are also included. For example, special regulatory permit emission thresholds for Lake County and Porter County are described from 326 IAC 2-1-1.

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<sup>57</sup> The Smog Watch web address is <http://www.state.in.us/idem/oam/smog/index.html>.

<sup>58</sup> Personal communication from Michael Brooks, Air Programs Branch, Indiana Department of Environmental Management (February 1999).

<sup>59</sup> Information about the air toxics monitoring program was obtained from the IDEM Office of Air Management web site at <http://www.state.in.us/idem/oam>.

<sup>60</sup> Oddi, Indiana Air Permitting Guide: New Source Review Operating Permits (1998).

## Matrix 5-9: Cross-reference of Air Quality Laws and Guidance Documents

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
CONSTRUCTION PERMIT: Applies to any person currently operating, proposing to operate, or modifying a source or facility that would increase air emissions.	IC 13-17-7 IC 13-17-8 IC 13-30-2-1(7)  326 IAC 2-1-3 326 IAC 2-1-5  Office of Air Management Construction Permit Application Guidance <sup>1</sup>  Indiana Chamber of Commerce Air Permitting Guide (1998)	The construction, operation, or maintenance of a source or facility must not: (1) interfere with attainment or maintenance of any ambient air quality standard set forth in 326 IAC 1-3; or, (2) interfere with attainment or maintenance of either the prevention of significant deterioration standards under 326 IAC 2-2 or the prevention of significant deterioration standards established by any adjoining state. Emission limitations may be established as conditions of construction permits.	IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 233-0185 (219) 881-6737	IC 13-17-7 IC 13-17-8 IC 13-30-2-1(7)  326 IAC 2-1-3 326 IAC 2-1-5
OPERATING PERMIT: Applies to sources operating facilities in Indiana that generate air emissions that have received a construction permit.	IC 13-17-7 IC 13-17-8 IC 13-30-2-1(7)  326 IAC 2-1-4 326 IAC 2-1-5	Emission limitations may be established as conditions of operating permits for any source or facility for the purpose of ensuring that the ambient air quality standards, and the prevention of significant deterioration standards are	IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 233-0185 (219) 881-6737	IC 13-17-7 IC 13-17-8 IC 13-30-2-1(7)  326 IAC 2-1-4 326 IAC 2-1-5

<sup>1</sup>

The Construction Permit Application Guidance can be accessed on the IDEM Office of Air Management web site at <http://www.state.in.us/idem/oam/index.html>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		attained and maintained and for insuring that the public health is protected.		
TITLE V OPERATING PERMITS: Applies to stationary or portable sources meeting emission benchmarks for criteria pollutants or hazardous air pollutants.			IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 233-0185 (219) 881-6737	
OPEN BURNING: Burning of materials so that smoke is emitted directly to the air, without passing through a stack or chimney is opening burning.	IC 13-17-9  326 IAC 4-1	Open burning is prohibited except as authorized by statute and rules adopted by the Air Pollution Control Board.	IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 233-0185 (219) 881-6737	IC 13-17-9  326 IAC 4-1
VEHICLE EMISSIONS TESTING PROGRAM: Vehicles in designated counties must have their emissions checked	IC 13-17-5  326 IAC 13	Emissions testing must be conducted in: (1) a county having a population of more than 64,000 but less than 65,000; and, (2) a county having a population of more than 85,000 but less than 88,000. Federal entities are exempted.	IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 233-0185 (219) 881-6737	Not applicable.
GASOLINE PUMP VAPOR CAPTURE: The Clean Air Act requires use of Stage II vapor recovery in areas designated as severe non-attainment of the one-hour ozone standard.	326 IAC 2-11-2	Requires the installation of vapor recovery devices on gasoline pumps at service stations.	IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 233-0185 (219) 881-6737	326 IAC 2-11-2
AIR TOXICS PROGRAM: Develops inventories of hazardous air pollutants, incorporates state and federal rules			IDEM, Office of Air Management 100 N. Senate Ave.	Not applicable.



<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
concerning hazardous air pollutants, and designs creative programs to educate businesses and the general public about hazardous air pollutants. Also oversees the NESHAPs.			Indianapolis, IN 46205 (317) 308-3238	
AIR TOXICS MONITORING PROGRAM: Implements monitoring requirements under Titles I and III of the Clean Air Act for ozone precursors and activities related to hazardous air pollutant sources. In addition, special purpose monitoring is conducted.			IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 308-3238	Not applicable.
PARTNERS FOR CLEAN AIR: Voluntary coalition of businesses, industries, municipalities, and organizations committed to reducing ozone levels in the Northwest Indiana and Chicago region.			IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 233-6870 1-800-451-6027	Not applicable.
SMOG WATCH: Provides real-time ozone levels in Northwest Indiana via the Internet. <sup>2</sup>		Forecasts and health information are updated by 2:00 pm daily.	IDEM, Office of Air Management 100 N. Senate Ave. Indianapolis, IN 46205 (317) 233-2318 1-800-631-2871	Not applicable.
NORTHWEST INDIANA ACTION PLAN <sup>3</sup> : As part of EPA's Geographic Initiative started in 1992, EPA and IDEM seek environmental restoration of the region and elimination of serious environmental			IDEM 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46206 (317) 232-8755	Not applicable.

<sup>2</sup> Smog Watch can be accessed at <http://www.state.in.us/idem/aom/smog/index.htm>.

<sup>3</sup> More information about the Northwest Indiana Geographic Initiative and a copy of the Northwest Indiana Action Plan can be found at <http://www.epa.gov/reg5ogis/nwi/actplan.htm>.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
stresses now threatening Lake Michigan. Several strategies will be pursued under the Action Plan, including improving the area's air quality.				

## Section 5-10: Property Rights

An important issue in Northwest Indiana is property rights. Often transcending environmental and economic concerns, rights of individuals and businesses are considered by the State when State actions are contemplated. Important also is the need for citizens to understand their rights in this respect. The following section considers issues pertaining to property rights in Indiana.

### Managed Activities

- Property taken for a public use: Just compensation.
- Relocation assistance due to a public project.
- “Takings” analysis for new rules.
- Trespass.
- Litter and trash.

### Background

#### Constitutional Foundations

Both federal and state constitution provisions are directed to the protection of property interests. These provisions are limitations on the government’s sovereign power to control and regulate private property rights for the public good, sometimes called the “power of eminent domain.”<sup>1</sup>

The Fifth Amendment of the US Constitution provides that private property must not “be taken for public use, without just compensation.” This prohibition is made applicable to the states through the Fourteenth Amendment. A similar provision is set forth in Article I, Section 21 of the Indiana Constitution. “. . . No person’s property shall be taken by law without just compensation; nor, except in case of the State, without such compensation first assessed and tendered.”

The concept of “regulatory” takings has held a high profile in recent years and was one of the major concerns of many participants in the 1995 public workgroup process conducted by the DNR in Northwest Indiana. Several key decisions in this dynamic legal area are outlined here.

The US Supreme Court held in *Lucas v. South Carolina Coastal Council* that “a categorical taking occurs when government regulation of property denies a landowner all economically beneficial or productive use of the land.”<sup>2</sup> In *First English Evangelical Lutheran Church v. Los Angeles*,<sup>3</sup> the Supreme Court awarded compensation for a temporary but total prohibition against building upon a fire and mudslide ravaged hillside until new building standards could be developed. More recently, in *Dolan v. Tigard*,<sup>4</sup> the Supreme Court identified the “rough proportionality” test to mandate that a government entity “make some sort of individualized determination” before requiring a landowner to dedicate a portion of her property, which would benefit from a storm drainage system, as a greenway and bicycle and pedestrian pathway.

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<sup>1</sup> *Shedd v. Northern Indiana Public Service Co.*, 206 Ind. 35, 188 N.E.2d 322, 325 (1934).

<sup>2</sup> *Lucas v. South Carolina Coastal Council*, 505 U.S. 121, 112 S.Ct. 2886, 120 L.Ed.2d 798 (1992).

<sup>3</sup> *First English Evangelical Lutheran Church v. Los Angeles*, 482 U.S. 304, 107 S.Ct. 2378, 986 L.Ed.2d 250 (1987).

<sup>4</sup> *Dolan v. Tigard*, \_\_\_ U.S. \_\_\_, 114 S.Ct. 2309, 129 L.Ed.2d 304 (1994).

Similarly, the Indiana Supreme Court recently considered the concept of regulatory takings in *Natural Resources Com'n v. Amax Coal Co.*<sup>5</sup> “A taking is recognized not only for the physical seizure or invasion of property by the government, but also when government regulations have the effect of impinging upon a vested property right....In deciding whether a regulation effects a taking in violation of the Fifth Amendment, this Court applies the following test, gleaned from US Supreme Court jurisprudence: a land use regulation will not effect a taking if it substantially advances a legitimate state interest and does not deprive an owner of economically viable use of his property.”

Not every inconvenience caused by government action results in a “taking.” For example, the construction of a divider strip which prevented northbound highway traffic from turning directly into a property was not compensable.<sup>6</sup> On the other hand, real estate need not be taken in total in order to entitle the owner to compensation. Just compensation in cases involving a partial taking is generally the fair market value of the property taken, plus the damage suffered by the property remaining in private ownership, including diminution of its fair market value.<sup>7</sup>

The state sovereignty carries with it the power to regulate, and this power may be expressed in different terms. For example, the “police power” was described in an early 20th century case from Lake County as “an inherent attribute of sovereignty, and may be exercised to conserve and promote the safety, health, morals, and general welfare of the public.”<sup>8</sup> The state also possesses the “power of eminent domain” for uses over which it has a sovereign right of control and regulation.<sup>9</sup>

## **Implementation of Management Techniques**

### **Just Compensation Legislation**

A state statute<sup>10</sup> helps ensure that a landowner receives “just compensation” for property taken for a public use.<sup>11</sup> The legislation and its constitutional foundations apply to compensate for loss to commercial and industrial uses, as well as residential and agricultural uses. For example, evidence as to the revenue derived from commercial real estate sought to be condemned, and the water which it fronted as a harbor, was found to have been properly considered.<sup>12</sup> Specific statutory procedures to govern takings by towns and cities,<sup>13</sup> by the state,<sup>14</sup> and by public utilities<sup>15</sup> are also provided.

### **Relocation Assistance**

In 1990, the General Assembly enacted Indiana’s version of the Relocation Assistance Act to provide compensation to displaced persons whose displacement results from a project undertaken by a state agency, political subdivision, or university. The displaced person may receive each of the following: (1) actual reasonable expenses in moving the person, the person’s family, business, farm operation, or personal property; (2) actual direct losses of tangible personal property as a result of moving or

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<sup>5</sup> *Natural Resources Com'n v. Amax Coal Co.*, Ind., 638 N.E.2d 418, 430 (1994).

<sup>6</sup> *State v. Ensley*, 240 Ind. 472, 164 N.E.2d 342 (1960).

<sup>7</sup> *Unger v. Indiana & Michigan Elec. Co.*, Ind. App., 420 N.E.2d 1250 (1981).

<sup>8</sup> *Inland Steel Co. v. Yedinak*, 172 Ind. 423, 433, 87 N.E. 229, 234, 139 Am.St. Rep. 389 (1909).

<sup>9</sup> *Shedd v. Northern Indiana Public Service Co.*, 206 Ind. 35, 188 N.E.2d 322, 325 (1934).

<sup>10</sup> IC 32-11-1.

<sup>11</sup> *Unger v. Indiana & Michigan Elec. Co.*, Ind. App., 420 N.E.2d 1250 (1980).

<sup>12</sup> *Bray v. Tardy*, 182 Ind. 98, 105 N.E.2d 772 (1914).

<sup>13</sup> IC 32-11-1.5.

<sup>14</sup> IC 32-11-2.

<sup>15</sup> IC 32-11-3.

discontinuing a business or farm operation, but not to exceed an amount equal to the reasonable expenses that would have been required to relocate the property, as determined by the head of the agency; and, (3) with some limitations, actual expenses up to \$500 in searching for a replacement business or farm.<sup>16</sup>

Moving expenses and dislocation allowances are also considered.<sup>17</sup> In addition, a court in a condemnation proceeding may grant an owner “reasonable costs, disbursements, and expenses, including reasonable attorney, appraisal and engineering fees, actually incurred” where the final judgment is that the governmental entity cannot acquire the property by eminent domain or the proceeding is abandoned by the government.<sup>18</sup>

### **“Takings” Analysis for New Rules**

A rule is a state agency statement of general applicability that has the effect of law and implements, interprets, or prescribes law or policy of the organization, procedure, or practice requirements of the agency. Before a rule becomes law, the Attorney General reviews the rule for legality.

Statutory amendments made in 1993 include a “takings” analysis in the determination of legality.<sup>19</sup> “In the review, the [A]ttorney [G]eneral shall consider whether the adopted rule may constitute the taking of property without just compensation to an owner.” If the Attorney General determines that a rule may constitute a taking of property, the Attorney General is required to advise the Governor and the agency.<sup>20</sup>

### **Trespass**

Not every issue pertaining to the protection of private property rights derives from government action. A person or persons might enter upon the property of another without the owner’s permission, causing a reduction in enjoyment which may be nominal or significant. This unconsented entry is called a “trespass” and is a recurring concern among landowners and land managers in largely urbanized Northwest Indiana. The problem may also arise where unwitting or irresponsible individuals wander from public beaches or other recreational areas to private lands or environmentally sensitive public lands.

Trespass may be either civil or criminal in nature. Civil trespass is a common law tort which may be established by the landowner or whoever claims the harm to property. Entry upon the property of another “without right constitutes the common law of trespass.”<sup>21</sup>

Criminal trespass is controlled in Indiana by statute. A person commits a criminal trespass who: (1) not having a contractual interest in property, knowingly or intentionally enters the real property of another person after having been denied entry by the other person or that person’s agent, either through a personal communication or the posting of a notice at the main entrance to the property; (2) not having a contractual interest in the property, knowingly or intentionally refuses to leave the real property of another after having been asked to leave by the other person or that person’s agent; (3) accompanies another person in a vehicle, with knowledge that the other person knowingly or intentionally is exerting unauthorized control over the vehicle; (4) knowingly or intentionally interferes with the possession or use of the property of another person without the person’s consent; or, (5) not having a contractual interest in the property, knowingly or intentionally enters the dwelling of another person without the person’s consent.

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<sup>16</sup> IC 8-23-17-13.

<sup>17</sup> IC 8-23-17-14.

<sup>18</sup> IC 8-23-17-27.

<sup>19</sup> 1993 Ind. P.L. 12.

<sup>20</sup> IC 4-22-2-32.

<sup>21</sup> *Evans v. State*, Ind. App., 493 N.E.2d 806, 809 (1986) which also contrasts tortious and criminal trespass in footnote 2.

The crime of trespass is typically a Class A misdemeanor but it is a Class D felony where certain aggravating circumstances are present.<sup>22</sup> The county prosecutor is responsible for the enforcement of misdemeanors and felonies, including criminal trespass.<sup>23</sup>

### **Litter and Trash**

Often closely related to trespass are problems associated with litter and trash. Littering is also a violation of state statute. A person who recklessly, knowingly, or intentionally places or leaves refuse on the property of another, except in a container provided for refuse, commits littering. "Refuse" includes solid and semisolid wastes, dead animals, and offal. Littering is a Class B infraction.<sup>24</sup> As with other statutory infractions, enforcement rests with the county prosecutor.<sup>25</sup> Gary, Hammond, East Chicago, Michigan City, and other municipalities in Northwest Indiana also have ordinances addressed to littering and vacant lot clean-up.<sup>26</sup>

Several statutory enactments administered by IDEM address the unlawful disposal of waste. Prohibitions include those against open dumping of garbage in violation of rules adopted by the Solid Waste Management Board; depositing or allowing the deposit of contaminants or solid waste on the land; and disposing of solid waste in or adjacent to a public highway, state park, state nature preserve, or recreation area adjacent to a lake or stream except in "proper containers" or in a sanitary landfill.<sup>27</sup> An enforcement action cannot be pursued against a landowner who has been victimized by open dumping (unless the dumping involves hazardous waste) by a trespasser or other person acting without consent of the landowner, until IDEM has made a good faith effort to "take enforcement action against a person who appears likely to have committed or caused the illegal dumping." A landowner, who in good faith provides IDEM with information identifying the person believed to have caused the dumping, is not liable to the person for providing the information. In an enforcement action, IDEM may seek joinder in the lawsuit and require the landowner to allow the violator to enter the land and remove and dispose of the waste.<sup>28</sup>

Another statute prohibits the placement of "a contaminant, garbage, or solid waste" within 15 feet of a lake or in a floodway.<sup>29</sup> The provision is enforced by the DNR and may result in a civil penalty of \$1,000 for any violation. "Each day a violation continues after a civil penalty is imposed. . . constitutes a separate offense."<sup>30</sup>

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<sup>22</sup> IC 35-43-2-2.

<sup>23</sup> IC 33-14-1-4.

<sup>24</sup> IC 35-45-3-2.

<sup>25</sup> IC 34-14-1-4.

<sup>26</sup> Draft Summary of State Programs within the Indiana Portion of the Lake Michigan Basin, Indiana Department of Environmental Management (July 1995).

<sup>27</sup> IC 13-30-2-1.

<sup>28</sup> IC 13-30-3-13.

<sup>29</sup> IC 14-28-1-27.

<sup>30</sup> IC 14-28-1-36.

### Matrix 5-10: Cross-reference of Property Rights Laws and Guidance Documents

Program and Activities	Laws and Guidance Documents	Standards or Criteria	Contact	Applicable to Federal Consistency
Just Compensation Legislation				
PROPERTY TAKEN FOR A PUBLIC USE: Compensation is provided to commercial and industrial uses, as well as residential and agricultural uses.	IC 32-11-1 IC 32-11-1.5 IC 32-11-2 IC 32-11-3  Unger V. Indiana & Michigan Elec. Co  Bray v. Tardy.	Specific procedures, outlined by statute, govern takings by towns, cities, the state, and public utilities.	Office of Attorney General State House, Rm. 219 Indianapolis, IN 46204 (317) 232-6201	Not applicable.
Relocation Assistance				
RELOCATION: A person displaced by a public project can receive compensation.	IC 8-23-17-13	A person is eligible for compensation if the person moves from real property or moves personal property from real property: (1) because of the acquisition of the real property and the improvements located on the real property; (2) because of the partial acquisition of real property to the extent that continued use by the owner or occupant is rendered impossible or impracticable; (3) as a result of a written order of the	INDOT 100 N. Senate St., N901 Indianapolis, IN 46204 (317) 232-5533	Not applicable.

<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		acquiring agency to vacate the real property intended to be acquired by the agency; or, (4) as a result of an order issued by an agency engaged in code enforcement activities to vacate the real property.		
Takings Analysis for New Rules				
TAKINGS ANALYSIS: Before a rule becomes law, the Attorney General reviews the law for legality.	1993 P.L. 12 IC 4-22-2-32	The Attorney General shall consider whether the rule may constitute a taking of property without compensation to the owner. If the Attorney General determines the rule constitutes a taking of property, the Attorney General is required to advise the Governor and the agency proposing the rule.	Office of Attorney General State House, Rm. 219 Indianapolis, IN 46204 (317) 232-6201	Not applicable.
Trespass				
TRESPASS: Entering upon the property of another without consent can be classified as civil or criminal.	IC 33-14-1-4 IC 35-43-2-2  Evans v. State	Criminal trespass is committed when a person: (1) knowingly enters another's property after having been denied permission to enter; (2) refuses to leave the property of another after having been asked to leave; (3) accompanies another person in a vehicle knowing the other person is operating the vehicle without authorization; (4) interferes with	Local law enforcement official.	IC 33-14-1-4 IC 35-43-2-2



<b>Program and Activities</b>	<b>Laws and Guidance Documents</b>	<b>Standards or Criteria</b>	<b>Contact</b>	<b>Applicable to Federal Consistency</b>
		the use of another person's property; and, (5) enters another person's dwelling without consent.		
Litter and Trash				
LITTERING: Littering is a violation of state law.	IC 34-14-1-4 IC 35-45-3-2	A person who recklessly, knowingly, or intentionally leaves refuse on property of another commits littering.	Local law enforcement official.	IC 34-14-1-4 IC 35-45-3-2
OPEN DUMPING: Garbage and other waste material is to be disposed in proper containers or a sanitary landfill.	IC 13-30-2-1 IC 13-30-3-13	Violations include: (1) depositing contaminants or solid waste on the land; and, (2) disposing solid waste in or adjacent to a public highway, state park, state nature preserve, or recreation area next to a lake or stream.	IDEM, Office of Solid and Hazardous Waste 100 N. Senate Ave. PO Box 6015 Indianapolis, IN 46204 (317) 232-8871 1-800-451-6027	IC 13-30-2-1 IC 13-30-3-13
WASTE DISPOSAL: DNR regulates the disposal of waste near a lake or within a floodway.	IC 14-28-1-27 IC 14-28-1-36	Disposing of contaminants, garbage, or solid waste within 15 feet of a lake or in a floodway is prohibited.	DNR, Division of Law Enforcement, District 10;100 W. Water St. Michigan City, IN 46360 (219) 879- 5710	IC 14-28-1-27 IC 14-28-1-36

## Chapter 6: Program Development and Coordination

This chapter discusses the history of Indiana's development of the Indiana Lake Michigan Coastal Program (LMCP). Public participation has played an integral role in the development of the LMCP. This chapter discusses public participation during program development through public meetings, partnerships, and an extended workgroup process. The LMCP also sought input on local planning and management needs. Through specific projects, local agencies and organizations participated in identifying both their management needs and existing plans for several issues identified by the workgroup process.

Local, state and federal agencies also participated in the development of the LMCP. The DNR was selected as the lead agency; however, the LMCP is a comprehensive plan that describes how all of Indiana's state agencies manage coastal resources. An important part of Indiana's development approach was working with local and federal agencies. The participation of local, state and federal agencies in the development of the LMCP is described below.

### Program Development

#### Historical Perspective on Program Development

During the decade following Indiana's 1970s efforts to develop a program for the federal Coastal Zone Management Program (CZMP), several shoreline issues surfaced underlining the need for comprehensive management of Indiana's Lake Michigan shoreline. The Lake Michigan Marina Development Commission was formed and marina development along the coast flourished.<sup>1</sup> In response to high demand for public access, Congressman Visclosky proposed the Marquette Plan.<sup>2</sup> Lake levels began to rise, severely damaging shoreline communities. Industries made significant investments in modernizing their plants, resulting in the potential to reclaim portions of the shoreline for other uses. Boating safety concerns lead to public hearings and the adoption of a rule identifying "no-boat zones" along the shoreline where jurisdictions petitioned for areas to be used for swimming only.<sup>3</sup>

In 1991, the Natural Resources Commission (NRC) responded to the growing recognition of the need for a management strategy, and urged the Indiana DNR to establish a master plan for the shoreline that would include boating safety measures. The DNR contracted with the Northwestern Indiana Regional Planning Commission (NIRPC) to explore the development of a comprehensive management plan for Indiana's shoreline.<sup>4</sup>

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<sup>1</sup> IC 14-13-3 established the Lake Michigan Marina Development Commission to develop "various plans and recommendations that are proposed concerning marina development" along Lake Michigan and its tributaries.

<sup>2</sup> The Marquette Plan was proposed by Congressman Peter Visclosky as a plan to redirect Indiana coastal resources uses. Congressman Visclosky's statement was cited in the Northwestern Indiana Regional Planning Commission report Toward a Management Plan for Indiana's Shoreline on Lake Michigan (January 1993): "As steel continues to be made by a reconfigured industry in smaller, more efficient and safer facilities, let the public sector join with the private to recapture--at least initially--a narrow strip to the north of our great industrial complex. Then, as attrition occurs naturally later in this century and the next, and as the mills age and technology changes, where sites are unused and rail yards are abandoned, let us take quick steps to reclaim them for the public. . . This does not mean that no new industry will locate on the lakeshore, but it does mean that we should set our priorities in clear and definite manner. . . I want to begin recapturing our lakeshore for our people to use as soon as is possible, even if in some areas the recovered land is a strip so narrow it is measured in feet."

<sup>3</sup> Northwestern Indiana Regional Planning Commission (January 1993).

<sup>4</sup> The result of the contract was the preparation of the document, Toward a Management Plan for Indiana's Shoreline on Lake Michigan (January 1993).

Four public meetings were held in the coastal area to obtain citizen input on the need for a comprehensive management plan. NIRPC also reviewed the management programs and regulations of shoreline uses of other Lake Michigan states. The report concluded that the results of the public meetings identified a clear need for the development of a comprehensive shoreline plan. The report also stated that the citizen responses suggest that a planning process for the future of the shoreline should include a broad range of issues in addition to boating access. Upon review of the requirements of the CZMP, other states' coastal programs, and Indiana's current legal framework, the report recommended Indiana seek development funds from the U.S. Department of Commerce for the preparation of a comprehensive coastal program. Upon the compilation of updated shoreline information, a determination would need to be made whether the management plan would fit within the framework of the federal program or be independently developed by state and local entities or other mechanism. Eight conclusions lead to this recommendation:

- Current and future Indiana shoreline challenges and opportunities require comprehensive planning and policy making.
- The federal Coastal Zone Management Program offers a flexible framework and an annual grant through which Indiana could establish and maintain a shoreline management program.
- The required matching dollars would be in-kind match from the salaries of current state personnel currently involved in coastal activities.
- Preparation of Indiana's application to the federal coastal program would be financed by development grants available from the U.S. Department of Commerce.
- Technical reports completed during earlier efforts by the State Planning Services Agency could provide a head start on the development process.
- Federal consistency requirements would provide Indiana with the power to require federal agency activities to comply with Indiana's coastal program.
- CZM status would make additional funding sources available to Indiana.
- Indiana's Area of Concern and other areas of coastal significance could benefit from the receipt of CZM funds.

Acting on this recommendation to seek federal funding through the CZMP, the State of Indiana applied for a grant to develop the LMCP. Governor Evan Bayh designated the DNR as the lead agency in this effort. In October 1993, the first of four program development grants was obtained.

### **Public Participation in Program Development**

Upon review of program development efforts in the 1970s, it was determined that previous studies would need to be updated. The DNR contracted with several entities to receive assistance with the technical work needed to develop a coastal program. The DNR also devoted one full time employee to organize the development process.

During the initial stages of the development process, several public meetings were held to explain the federal coastal program and obtain input for the plan. The DNR hired NIRPC through a contract to maintain a mailing list of interested persons and agencies, host public meetings to obtain input, and publish a newsletter to increase awareness and opportunities to become involved during the development process.

Mark Reshkin, then with Indiana University Northwest, was contracted to recommend a boundary in which a coastal program should be implemented and where funding for coastal projects would be

available. Between October 1993 and September 1995, input was sought through meetings and written comments for the delineation of a coastal program boundary.<sup>5</sup> (see Chapter 3)

The Coastal Zone Management Act requires states to identify the uses of the coastal area to be included in the coastal program and how these uses are managed. (see Chapter 5) The DNR contracted with Leila Lee Botts to inventory the diverse uses of Indiana's shoreline. Comments received during public meetings and through the mail were incorporated into the author's final recommendations. The report classifies the uses of Indiana's coastal resources in seven categories:

- Industrial uses such as manufacturing plants, energy conversion facilities, storage facilities, and ports and navigation channels.
- Residential and commercial uses, including privately owned residences, shopping centers, and associated roadways and parking facilities, plus commercial fishing.
- Recreational uses, including public parks, public and private boating facilities such as marinas and launching ramps, public and private beaches, and sport fishing access sites.
- Public and private natural areas and areas of special ecological sensitivity or significance, including nature preserves, public parks, areas on private lands that are managed for preservation, and land that has been purchased to preserve natural features.
- Public infrastructure, including water treatment plants, sewage treatment systems, and transportation facilities.
- Erosion and flood control measures, public and private.
- Cultural resources, such as historic and archaeologically significant sights.<sup>6</sup>

The report provides a detailed description of Indiana's shoreline activities for each category, a summary of some of the federal, state, and local authorities currently managing these activities, historical background when necessary, and future issues facing the shoreline. The report also contains suggested criteria for determining if a use should be included in an Indiana coastal program. The criteria include:

- Whether the use is water dependent or water-related
- Whether the use has a direct and significant effect on water quality in Lake Michigan or its tributaries
- Compatibility with other shoreline uses
- Effects on public access
- Effects on unique and significant or ecologically sensitive natural areas including plant, wildlife, and fish habitat
- Effects on air quality
- Effects on shore processes and relationship to erosion and flood hazards
- Relationships with historic or cultural resources and esthetic features
- Whether the use is sustainable in the future, which will include consideration of what resources are used and whether they are renewable or consumed in the activity

In the fall of 1994 and spring of 1995, opposition to participation in the federal CZMP was voiced by private property rights advocates. Several local units of government passed resolutions urging the state not to participate in a federal coastal program. Entities passing a resolution opposing participation in a federal program included the Porter County Board of Commissioners, LaPorte County Board of Commissioners, Beverly Shores Town Council, Town Council of Porter, Town of Pines Council, and the Pine Township Advisory Board. Underlying themes in all of the resolutions with the exception of LaPorte County Board of Commissioners, was that a program would require the creation of a "Coastal

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<sup>5</sup> Mark Reshkin, Boundary for the Recommendation for the Indiana Coastal Coordination Area (September 1995).

<sup>6</sup> Lee Botts, Current Uses of Indiana's Coastal Resources: Final Report for the Indiana Coastal Coordination Program (December 1995).

Zone Management Council”, that Indiana “previously considered and rejected participation” in the federal program, and participation in the federal coastal program would “increase deficit spending, and an increase in government bureaucracy.”<sup>7</sup>

The LaPorte County Board of Commissioners added to these common themes that “nonpoint pollution is a prerequisite for participation in the federal Coastal Zone Management Act” and the Indiana Department of Natural Resources” doesn’t have firm convictions regarding the area affected in LaPorte County, which could restrict land and water use to the residents involved in the Coastal Zone Management District.” LaPorte County Commissioners also resolved that Indiana withdraw from participation but recommended that participation be opposed “as long as non-point source pollution is a prerequisite for participation and until all questions have been answered regarding jurisdiction and local control.”<sup>8</sup>

The NRC, who had listened to the suggestions from northwest Indiana in the early 1990s for a comprehensive management plan and charged the DNR with its development, listened also to the opposition. On May 22, 1995, the NRC passed a resolution to improve communications and coordination in the use and enjoyment of Indiana’s Lake Michigan coastal area. Citing the unique opportunities and challenges northwest Indiana provides to the State of Indiana, the Commission resolved that the DNR would:

- Improve meaningful opportunities for public participation in decision making “relative to natural, cultural, commercial, and recreational resources”.
- Pursue better “communication and coordination” within the Department of Natural Resource, other state and federal agencies, and local units of government.
- Develop new educational tools such as manuals to help citizens “exercise their rights and opportunities relative to agency functions”.
- Work with citizens of Northwest Indiana to “identify and prioritize social and environmental needs”.
- Explore innovative ways to address the needs of Northwest Indiana.
- Search for methods to implement the directives of the resolution without new statutory authority or regulations which “usurp the legitimate prerogatives of local government and civil liberties of private citizens.”

#### Public Participation Through the Northwest Indiana Public Workgroup Process

In February 1995, the LMCP began an extensive public participation process to gain a better understanding of the various perspectives on the issues challenging the Lake Michigan coastal area in Indiana. Work groups were organized to identify the problem in the coastal area and how the problems should be overcome according to those that live in northwest Indiana.

Four work groups were formed to establish a framework for discussion:

- Industry, Ports, and Navigation
- Marinas, Public Access, and Recreational Uses
- Natural Resources, Shorelines, and Water Quality

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<sup>7</sup> The Board of Commissioners of Porter County, RESOLUTION 95-5: A Resolution by the Board of Commissioners of Porter County Opposing Participation in the Federal Coastal Zone Management Act (February 21, 1995). Beverly Shores Town Council, Coastal Zone Management Plan Resolution of Opposition (March 13, 1995). Town Council of Porter, Resolution 95-03: A Resolution of the Town Council of the Town of Porter, Indiana Opposing the Indiana Department of Natural Resources Plan to Pursue and Implement the Federal Coastal Zone Management Act (March 14, 1995). Town of Pines Council, Resolution 95-01: Coastal Zone Management Plan Resolution of Opposition (March 7, no year). Pine Township Advisory Board, Coastal Zone Management Plan Resolution of Opposition (January 10, 1995).

<sup>8</sup> The Board of Commissioners of LaPorte County, RESOLUTION 95-3: A Resolution by the Board of Commissioners of LaPorte County Opposing Participation in the Federal Coastal Zone Management Act (June 5, 1995).

- Residential, Agricultural, and Commercial Development

Broad participation was sought in the work group process as the meetings were promoted at public meetings held in conjunction with the coastal program effort, the program's newsletter, and the newspaper. The groups were asked to identify issues of the Lake Michigan shoreline and ways to address these issues. The LMCP only provided minimal guidance to the groups through a mission statement:

*The mission of the Northwest Indiana Work Groups is to identify current and future issues regarding the economic, natural, and cultural resources of Indiana's Lake Michigan Coastal Region and to provide creative solutions for the resolution of those issues, to allow the most efficient use of these resources for current and future generations.*

Between February and June, the groups held 25 meetings at which approximately 165 people volunteered to participate. During that time, over 800 solutions were suggested by the four work groups. The results of the groups were compiled into the report, NORTHWEST INDIANA PUBLIC WORK GROUPS: ISSUES AND RESOLUTION FOR THE INDIANA SHORELINE OF LAKE MICHIGAN.

The report was widely distributed as suggested by the groups to those that participated; federal and state agencies designated by the groups, and local elected officials. In addition, copies were sent to the public libraries in Northwest Indiana, and made available on the LMCP Internet website. A recommendation of the work group process was the review of their results by a local committee.

Following the work group process the LMCP, with the assistance of many public and private entities and individuals, researched each resolution to identify the private initiatives, governmental programs, and laws which might help frame efforts to implement the suggested solutions. In some cases, research included how other coastal states carry out a similar solution. Responses to the recommendations are titled "annotations" rather than answers; the answers must come from the people of northwest Indiana. The annotations were prepared to help open communications among all who have an interest in the future of the coastal area. The hope is that the resolutions also provide an important link to prioritizing solutions and identifying who is best equipped to implement the solutions. The solutions and the responses to the solutions are compiled in the report, NORTHWEST INDIANA PUBLIC WORK GROUPS: 865 ANNOTATIONS BY THE INDIANA DEPARTMENT OF NATURAL RESOURCES.

Next, the LMCP grouped the work group suggestions into 15 general categories and developed a narrative of each the 15 issues. The information was compiled into the report, A SYNTHESIS OF TOPICS OF IMPORTANCE IN INDIANA LAKE MICHIGAN COASTAL AREA.

The 1995 work group process identified a myriad of issues pertaining to Indiana's Lake Michigan shoreline and coastal area which are of concern to residents. Included were such diverse topics as water quality, private property rights, the preservation of natural areas and native species, governmental coordination and streamlining, recreation and access, brownfields and other issues pertaining to economic development, and air pollution.

For further synthesis of the issues, the DNR established a local committee as suggested by the work groups. In the summer of 1996, the DNR Director invited several citizens from Northwest Indiana to participate on a Blue Ribbon Advisory Panel.

The Blue Ribbon Advisory Panel included representatives from several coastal area interests. Membership included Tom Anderson, Save the Dunes Council; James Biggs, Porter County Commissioner; Robert Bilheimer, Bethlehem Steel Corporation; Michael Bucko, Porter County Council and NITCO; Ron Ebert, Indiana Farm Bureau; John Hannon, Great Lakes Engineering, L.L.C. and City

Engineer for Portage; James Kopp, Town of Ogden Dunes representing shoreline towns; Mark Maassel, NIPSCO Industries; Julie Murphy, Amoco Refinery; Ernest Niemeyer, Lake County Commissioner; Robert Pastrick, Mayor of the City of East Chicago; Charles Siar of the Miller Chapter Izaak Walton League; Ray Sierra, International Longshoremen's Association and member of the Great Lakes Commission; J.B. Smith, private attorney in Hammond; Bill Theis, Pine Township Trustee and spokesman for S.T.O.P.; Don Thomas, City Planner for Hammond; and Stephen Wurster, LaPorte County Commissioner.

The Blue Ribbon Advisory Panel elected to focus on one of the issues raised by the workgroups: governmental coordination and streamlining, particularly permit streamlining. During five meetings, the Panel discussed the issue and its solutions. The Panel touched upon several methodologies for permit streamlining including: primacy; general permits; joint agency permits; liaison or "single point of contact" to assist permit applicants; agency regional offices; work groups; written permit guidance; and federal consistency through participation in the Coastal Zone Management Program.

During its final meeting in August 1997, the Blue Ribbon Advisory Panel reached consensus on the following resolution concerning permit streamlining:

The [Blue Ribbon Advisory Panel] recommends that the Natural Resources Commission bring the following proposal to the Indiana Governor:

- (1) Implement a joint permit application for greater efficiency by:
  - Involving all federal, state, and local regulatory authorities.
  - Assigning a work team to pursue joint applications.
- (2) Consolidate environmental permitting processes in the State of Indiana.

#### Public Participation Through the Public Comment Period for the Scoping Document and Draft Environmental Impact Statement

The Indiana Lake Michigan Scoping Document was released for public comment in May 2001. The scoping document outlined the Lake Michigan Coastal Program's organization and priorities and Indiana's existing management authorities that together meet the requirements to participate in the Coastal Zone Management Program. The public review process for the scoping document included the release of the scoping document, informal meetings with stakeholders, three public meetings, and a public comment period. The DNR worked to inform as many local communities as possible about the public review process for the Lake Michigan Coastal Program. In addition to announcing the public meetings in 13 area newspapers, presentations and meetings were held for over 40 community representatives and organizations. These included Chambers of Commerce, business and industry, local agencies, park departments, and many community groups. In addition, invitation letters, information packets, or scoping documents were provided to over 500 individuals, organizations, and local, state, and federal government agencies. A toll free phone number and fax line, in addition to the program e-mail address, was initiated during the scoping process to accept requests for information and public comments.

On June 26, 27, and 28, facilitated public meetings were held in the evening in Michigan City, Highland, and Portage, respectively. Each meeting included a presentation of the Lake Michigan Coastal Program, a question-answer period, and a public comment period. Information about the Lake Michigan Coastal Program was also distributed at the meetings. The public meetings were very successful. Approximately 90 people attended the three meetings and there were a total of 31 comments given. During the public comment period from June 1 to August 6<sup>th</sup>, the DNR received 23 comments by mail, e-mail, and fax. Overall the vast majority of comments received were supportive of the Lake Michigan Coastal Program

and participation in the Coastal Zone Management Program. Comments and responses received on the Scoping Document can be found in Chapter 15.

The scoping process provided additional public input on the development of the Lake Michigan Coastal Program and participation in the Coastal Zone Management Program. The public comments and DNR responses to those comments were incorporated into the second stage in the development of the Lake Michigan Coastal Program, the “Lake Michigan Coastal Program document and Draft Environmental Impact Statement” (P/DEIS). Public comment was also sought for the P/DEIS.

Public hearings and the availability of the P/DEIS were announced in 13 area newspapers. In addition, invitation letters, information packets, or copies of the P/DEIS were provided to approximately 1,000 individuals, organizations, and local, state, and federal government agencies. The Lake Michigan website provided access to the P/DEIS and information about the public hearings as well as the executive summary, fact sheets, and comment forms. *Shorelines*, the program newsletter, was sent to approximately 1,000 people announcing the hearings and public comment process. And a toll free phone number and fax line, in addition to the program e-mail address, initiated during the scoping process were maintained to accept requests for information and public comments.

On October 1, 3, and 4, facilitated public hearings were held in the evening in Michigan City, Highland, and Portage, respectively. In addition to the public hearings, an open house was held at the Indiana Dunes State Park Nature Center on October 2 from 3 p.m. to 7 p.m. During the open house, representatives were available to answer any questions about the Lake Michigan Coastal Program and to provide copies of the P/DEIS and other informational material. The public hearings were very successful with over 55 attending and 21 comments given during the meetings. The open house was also very successful with approximately 15 people attending. The public comment period was held from September 1 to November 5. There were 40 comments submitted by mail, e-mail and fax on the P/DEIS. Comments received on the P/DEIS and responses can be found in Part VII.

### **Survey of Local Planning and Management Needs During Program Development**

Following the work of the Blue Ribbon Advisory Panel, the LMCP continued to research issues raised by the workgroups. During this phase, input was sought from agencies and organizations to identify their planning and management needs for many of the issues identified by the workgroups.

Recreational opportunity and access is a focus of CZMP and a topic identified during the public workgroup process. In 1996, DNR Division of Outdoor Recreation assisted the LMCP with identifying existing recreation sites (see Chapter 9). The Division held focus group meetings to determine the access needs of various interest groups, conducted a survey at selected access sites on the shoreline, and inventoried public and private recreational facilities in the three shoreline counties.

In 1999, the LMCP began a project to identify local entities responsible for regulating or managing activities in the coastal region, existing agreements and initiatives, and opportunities for improving government coordination through cooperative agreements. The Delta Institute was contracted with to complete the necessary research. The Delta Institute contacted over 60 local, state, and federal government agencies and non-governmental organizations. Through their research, the Delta Institute identified an extraordinary number of cooperative and collaborative coastal initiatives. In addition, those interviewed during the project indicated that there are opportunities to strategically leverage existing agreements and initiatives that meet the goals of the CZMP and address issues raised by the Northwest Indiana Workgroups. The results of the Delta Institute’s research are incorporated into this chapter and in Chapter 4.



In March 2000, the LMCP initiated several projects to examine issues raised by the workgroups. To further identify recreational needs, the LMCP contracted with the Eppley Institute for Parks and Public Lands at Indiana University. The Eppley Institute worked with local parks and recreational planners to compile existing coastal recreation plans, assess the status of those plans; assess public recreation areas to identify significant areas that may need additional protection or restoration; make recommendations on needs related to recreational access to underwater resources; and identify needs and trends in coastal recreation. The results of the recreational study were incorporated into the LMCP (see Chapters 8 and 9).

Management of historic and cultural resources is an important issue that was identified by the workgroup process. DNR Division of Historic Preservation and Archeology and the LMCP worked with a consultant to study historic and cultural resources in the coastal area. Shive-Hattery, Inc. worked with local historical societies, local planners, and other organizations to compile major plans for the protection of historic resources. They also assessed the status of the plans, identified areas of significance based on stakeholder input, identified areas of significance that require additional protection or restoration, analyzed the potential for heritage recreation, and identified trends and needs for the protection and restoration of historic and cultural resources. The results of this study were also incorporated into the LMCP (see Chapters 8 and 9).

The workgroups identified water quality as an important issue in the coastal area. To gain a better understanding of the impacts of nonpoint source pollution on water quality, the LMCP worked with a consultant to study the Indiana portion of the Lake Michigan watershed. Applied Ecological Services was contracted with to complete the study. By compiling existing water quality plans and data, Applied Ecological Services identified sub-watersheds which had impaired water quality due to nonpoint source pollution and evaluated potential opportunities for restoration. Applied Ecological Services worked with state and local agencies and non-governmental organizations to incorporate local information into the study. (see Chapter 8 and 13).

DNR Division of Nature Preserves and the LMCP continued to evaluate natural resources in the coastal area during program development. A workshop was held in March 2000 with local park managers and planners to identify areas of significance for their ecological values. Representatives from city, county, state, and federal agencies and non-governmental organizations participated in the workshop. Based on their input the Division of Nature Preserves and the LMCP were able to identify areas of significance (see Chapter 8) as well as management needs of local land managers.

### **State Agencies Participation During Program Development**

State agencies provided assistance in the development of the LMCP. Throughout development of the document, other state agencies provided detailed information of their programs and responsibilities. Once an early draft was completed, state agencies were sent the LMCP document to ensure that the information was accurate and to gain any additional input. State agencies also reviewed the Scoping Document and the P/DEIS and provided comments and updated information on their programs. Broad State agency participation will continue to be an important component of the LMCP.

### **Federal Participation During Program Development**

In addition to participation in early public meetings, federal agencies have provided input in the development of the LMCP. Federal agencies were consulted with during the development of chapters on

Federal Consistency (Chapter 11), Uses of Regional and National Benefit (Chapter 12), and Energy Facility Planning (Chapter 13). Federal agencies also reviewed the Scoping Document and P/DEIS and provided comments on the LMCP. Appendix D details the federal agencies that were sent copies of the P/DEIS.

## **Chapter 7: Lake Michigan Coastal Program Funding and Grants Program**

### **Introduction**

The DNR is designated as the lead agency for administration of the Lake Michigan Coastal Program (LMCP), including the Coastal Grants Program. As a State participating in the federal Coastal Zone Management Program (CZMP), Indiana is eligible to annually receive funds from the National Oceanic & Atmospheric Administration (NOAA). Indiana determines what percentage of those funds will be used to administer the LMCP and what percentage will be available for competitive grants. Section I of this chapter describes the federal funds available from NOAA to administer the LMCP. Section II of this chapter describes the Coastal Grants Programs. Grants will be made to further the goals and objectives of the LMCP and assist in the implementation of the priorities and guidance developed annually through a public process.

### **Section I: Funding for the Administration of the LMCP**

The following awards are available to the LMCP. Awards under Section 306/306(A) at 16 USC 1455 and 1455a will provide funding the LMCP; awards under Section 309 at 16 USC 1456b will be utilized to improve the program's ability to address key management issues as described below. The NOAA also requests an appropriation from Congress for CZARA Section 6217, nonpoint source pollution (See Chapter 14). When Congress appropriates funding under Section 6217, NOAA makes those funds available to the state coastal programs.

#### **Administrative Awards: Section 306/306(A)**

Indiana may receive funds for administration and implementing the LMCP, if the state matches any such award according to the federal-to-state contributions for the applicable fiscal year. The Secretary of Commerce shall establish the maximum and minimum awards for any fiscal year to promote equity between coastal states and effective coastal management. The Secretary of Commerce considers the extent and nature of the shoreline and area covered by the program, population of the area, and other relevant factors when determining the amount a state can receive. Under the current Congressional budget, it is estimated that Indiana will receive \$900,000 annually under Section 306/306(A).

#### **Section 306**

Awards issued to the state under Section 306 must be used to assure effective implementation within the program's boundary and for program administration. The Indiana LMCP will be required to match administrative awards using the following schedule for ratios of federal to state dollars: 4 to 1 for the first fiscal year, 2.3 to 1 for the second fiscal year, 1.5 to 1 for the third fiscal year, and 1 to 1 for each fiscal year thereafter. The state can use in-kind services to match federal funds. These services may include salaries of state employees currently working in the Coastal Program Area.

Implementation activities should be related to achieving substantial results in the following 4 major areas:

*Objectives:*

1. Protection of significant natural coastal resources;
2. Management of coastal development to:
  - Prevent or mitigate loss of life and property in coastal hazard areas
  - Better provide for priority water dependent uses; and
  - Identify environmentally acceptable sites for dredge spoil disposal;
3. Increase public access for recreational purposes, including revitalization of urban waterfronts and protection and restoration of important historic, cultural and aesthetic coastal resources; and
4. Improvement in the predictability of government decision making (particularly with respect to permitting).

Section 306(A)

Section 306(A) expands the eligible uses federal funds. The state must match Section 306(A) funds on a 1:1 ratio. Match can again include in-kind services. Section 306(A) funds can be used by the State to meet one or more of the following 4 objectives:

*Objectives*

1. The preservation or restoration of specific areas of the state that are designated under the management program for their conservation, recreational, ecological, historical, or esthetic values.
2. The preservation or restoration of areas that contain one or more coastal resources of national significance.
3. The redevelopment of deteriorating and underutilized urban waterfronts and ports that are designated as areas of particular concern.
4. The provision of access to public beaches and other public coastal areas and to coastal waters.

*Eligible Areas under 306(A)*

1. Areas designated for preservation and restoration as part of a critical areas program or similar state process;
2. Ports or urban waterfront areas which have been designated as Areas of Particular Concern in the LMCP document; and
3. Current or proposed public-access areas which are identified in the State's coastal planning process and for which handicapped access is included.

*Eligible Activities under 306(A)*

1. the acquisition of fee simple and other interests in land from willing sellers
2. low-cost construction projects determined by the Secretary of Commerce to be consistent with the above objectives, including but not limited to paths, walkways, fences, parks, and the rehabilitation of historic buildings and structures; except that not more than 50% of any award made may be used for such construction projects.
3. the following activities may be funded to accomplish the objective of redevelopment of deteriorating and underutilized urban waterfronts and ports that are areas of particular concern:
  - rehabilitation or acquisition of piers to provide increased public use, including compatible commercial activity
  - establishment of shoreline stabilization measures including the installation or rehabilitation of bulkheads for the purpose of public safety or increasing public access and use

- removal or replacement of pilings where such action will provide increased recreational use of urban waterfront areas
- engineering designs, specifications, and other appropriate reports
- educational, interpretive, and management costs and such other related costs as the Secretary determines to be consistent with the purposes of this section.

However, it is important to note that under the CZMA, Section 306(A) funds cannot be used to finance large-scale erosion-prevention structures. Consistent with this directive, 306(A) funds cannot be used for beach renourishment or hard structure erosion control projects. Small-scale shoreline stabilization structures are allowed for the redevelopment of deteriorating or underutilized urban waterfronts or ports to provide for increased public use and access. Vegetative erosion control activities or planning activities for a beach renourishment project or non-structural erosion control projects can qualify, if the project is on public land, will have substantial public benefits that outweigh the costs, and meets the other funding requirements.

### **Coastal Zone Enhancement Awards: Section 309**

The 1990 reauthorization of the CZMA selected enhancement areas for additional funding to encourage states to refine their programs in specific areas. Section 309 funds are awarded to the state without a match and in addition to the amount received under Section 306/306(A). Indiana can receive Coastal Zone Enhancement Awards for several purposes including the following objectives:

#### *Objectives*

1. Protection, restoration, or enhancement of the existing coastal wetlands base, or creation of new coastal wetlands.
2. Preventing or significantly reducing threats to life and destruction of property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential Great Lakes level rise.
3. Attaining increased opportunities for public access, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.
4. Reducing marine debris entering the Nation's coastal and ocean environment by managing uses and activities that contribute to the entry of such debris.
5. Development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources.
6. Preparing and implementing special area management plans for important coastal areas.
7. Adoption of procedures and enforceable policies to help facilitate the siting of energy facilities, government facilities, energy-related activities, and government facilities which may be of greater than local significance.

The LMCP will seek to achieve a balance in resources used for effective program administration and resources used to form partnerships through a Coastal Grants Program. A description of the Coastal Grants Program follows.

## **Section II: Indiana Coastal Grants Program**

With approval of the Secretary of Commerce, a coastal state may allocate 306/306(A) funds to a state agency, local government agency, area-wide agency, regional agency designated under section 204 of the Demonstration Cities and Metropolitan Development Act of 1966 at 42 USC 3334, interstate agency, or Indian tribe. The LMCP will allocate a percentage of funds received from NOAA to a Coastal Grants Program.

The DNR will form a stakeholders advisory group to provide input for the Coastal Grants Program. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region.

### **Purpose**

The purpose of the Indiana Coastal Grants Program is to preserve, protect, restore, and where possible, to develop the resources of the coast for this and succeeding generations and to achieve wise use of the land and water resources of the coastal region, giving full consideration to ecological, cultural, historic and esthetic values as well as to needs for economic development. The LMCP seeks out social, economic, and environmental solutions that balance use and protection of the coast's valuable, yet fragile, resources.

### **Coastal Grants Program Organization**

The Coastal Grants Program will be administered by the LMCP. Administration will include the development of grant proposal guidance, an application packet, and a project evaluation form. Grant proposal guidance will be developed annually to assist applicants in identifying projects that meet the objectives of the Coastal Grants Program. To accomplish this, the LMCP will host an annual public planning meeting to collect input on the next grant cycle's priorities and to identify emerging issues. The planning meeting will be open to the public, including the agencies and organizations eligible to receive grants.

Applications will be reviewed by DNR 'Technical Review Teams' which will conduct environmental review and comment on expertise-specific criteria including: the technical soundness of the proposal in terms of design and cost-effectiveness; the appropriateness of the budget request; and the qualifications and ability of the applicant to manage and implement the proposal, carry out the tasks, and deliver the products. All eligible applications to the LMCP for 306(A) projects will undergo environmental review by the DNR. Environmental review includes evaluation by the Divisions of Fish and Wildlife, Nature Preserves, Water, and Historic Preservation and Archaeology for potential adverse effects to fish, wildlife, botanical resources, rare natural communities, fish and wildlife habitat, publicly managed properties, state permit requirements, and historic and archaeological resources. Environmental review will also include an endangered species review to identify if there is a need for additional coordination with any federal entities or for consultation under the federal Endangered Species Act.

The Director of the DNR or designee will conduct final selection of applications for the state. The LMCP will administer the approved grants, receive financial and progress reports from applicants, and provide technical assistance and review throughout the project.

## **Allocation of Coastal Grants**

Funds available for the Coastal Grants Program will be based on both state and federal funds made available that year for the LMCP. Three categories were created to group similar grant projects and provide a fair distribution across project types.

### **Coastal Natural Resources Protection and Restoration**

Projects submitted under coastal natural resources protection and restoration will meet one of the following three objectives:

1. The preservation or restoration of specific areas of the Coastal Program Area that are identified in the LMCP for their conservation or ecological values. Chapter 8 discusses areas of coastal significance for conservation or ecological values.
2. The preservation or restoration of areas that contain one or more coastal resources of state or national significance.
3. The prevention, reduction or remediation of nonpoint source pollution that affects coastal natural resources.

### **Coastal Community Enhancement and Sustainability**

Projects submitted under coastal community enhancement and sustainability will meet one of the following three objectives:

1. The preservation or restoration of specific areas of the Coastal Program Area that are identified in the LMCP for their recreational, historical, or esthetic values. Chapter 8 provides a discussion of areas that are significant for their recreational, historical, or esthetic values.
2. The redevelopment of deteriorating and underutilized urban waterfronts and ports that are designated as areas of particular concern in Chapter 8.
3. The provision of access to public beaches and other public coastal areas and to coastal waters.

### **Emerging Issues**

The emerging issues category will encourage projects that address issues affecting the coastal area that do not easily fall under one of the other two categories. In addition, priority emerging issues will be identified in the guidance for proposals. Projects submitted under emerging issues will meet the criteria developed in the annual guidance, but will also meet at least one of the following additional criteria:

1. Maximize partnerships with public and private agencies;
2. Enhance long-term planning by local agencies;
3. Maximize other sources of matching funds.

## **Funding Available for a Coastal Grants Program**

Indiana is eligible to allocate Section 306/306(A) funds through a grants program. The LMCP will announce in annual guidance the amount of grant funds available for the Coastal Grants Program and the amount required of grant recipients as a match for grant funds.

The match may be in the form of cash or 'in-kind' services or a combination of the two. Cash includes salaries, project expenses, and purchase of equipment, supplies and other reasonable items associated with the project. An 'in-kind' match includes the use of equipment, supplies, land or other commodity already owned by the applicant or the use of items or staff donated by a third party. Partnerships that include meaningful private contributions as part of the local match are encouraged. Gifts and donations are acceptable, but only if they are made during the grant period. An annual budget that includes specific projects submitted to Indiana's Coastal Grants Program will also be drafted and submitted to OCRM for approval.

#### Eligible Activities and Areas

Activities and areas eligible for funding through the Coastal Grants Program will meet the requirements for Section 306/306(A), as described above in Section I of this chapter.

#### Eligible Recipients

Coastal grants may be allocated to a state agency, local government agency, area-wide agency, regional agency, or interstate agency. The State is responsible for ensuring that the funds are applied in furtherance of the State's approved coastal program.

Nonprofit organizations are only eligible to apply for non-construction/non-acquisition projects as grantees. They may partner with a public entity to perform some or all of a 306(A) construction or acquisition project, but they may not be a grantee for construction/acquisition projects.



## **Chapter 8: Coastal Areas of Significance**

### **Introduction**

Some coastal areas are particularly significant or have special conditions that warrant increased attention. These areas are distinguished by either their unique coastal-related qualities or the intense competition for the use of their resources. The Coastal Zone Management Program (CZMP) allows the designation of coastal areas of significance as either Areas of Particular Concern or Areas for Preservation and Restoration.

Establishment of Areas of Particular Concern (APC) is intended to address the need for heightened attention to the area's special conditions. The coastal region boasts many existing initiatives that identify and address significant areas. The Lake Michigan Coastal Program (LMCP) will use the process of APC designation to identify these existing initiatives and partnership opportunities.

APC designation provides assistance with prioritizing local, state, and federal government actions concerning the special needs of certain areas. In most cases, sufficient authorities and regulations are already in place; the problem is primarily that management may lack coordination and sufficient resources. Therefore, the solution is not to create additional agencies or regulations, but rather to focus and coalesce existing management efforts. The creation of APC will accomplish this by prioritizing the allocation funds for the LMCP and Coastal Grants Program, promoting interagency cooperation, providing technical assistance, and supporting research and local planning. APC status will thus serve as an important tool for those state agencies, local governments, and organizations grappling with complex and pressing coastal issues. APC are broad groups of coastal areas facing similar problems for which priorities can be defined. Federally owned or leased lands cannot be designated as APC due to the restriction that prevents the use of LMCP funds on federal lands. The list of APC currently contains six categories described in Section I.

Establishment of Areas for Preservation and Restoration provides for the designation of specific areas for the purpose of preserving or restoring them for their ecological, conservation, or recreational values. Specific areas that represent at least one of these values will be designated as Areas for Preservation and Restoration (APR). APR are clearly delineated areas on publicly held lands or on lands subject to use restrictions that are voluntarily submitted for designation. Federally owned or leased lands cannot be designated as APR due to the restriction that prevents the use of LMCP funds on federal lands. As with APC, sufficient authorities and regulations are already in place to manage APR; the category of APR will seek to focus attention and resources to meet the needs of designated areas. LMCP funds may be used for construction, restoration, or protection by local entities for designated APR. Section II of this chapter provides specific information on the location, status, and goals for APR.

### **Designation Process**

In Indiana, much has been done to inventory and designate areas of special coastal-related value. Specific studies are referred to under the appropriate APC category. As the LMCP continues to develop, areas that may deserve recognition as APC or APR will be studied. While these initial APC designations are of the generic type, federal regulations allow for site-specific APC (15 CFR 923.21). The LMCP may therefore designate specific sites in the future if sites are nominated and are not already included as generic APC.

Nominations of additional areas for inclusion in the LMCP may be suggested by local, state, and federal agencies, organizations, and interested private citizens. As long as the designation criteria are met, the LMCP may designate new APC or APR as a routine change to the program. Any addition that would require a change in the designation criteria would constitute an amendment to the LMCP, subject to public review and Gubernatorial approval. Routine changes and amendments must be approved by the NOAA, OCRM (15CFR 923.80-923.84). Criteria for the designation of APC are listed in Section I. Criteria for the designation of APR can be found in Section II of this chapter.

## **Nominations Format**

Nominations for APC (either generic or site-specific) or for site specific APR that are submitted for consideration must include the following information:

- Identification of status requested: Area of Particular Concern or Area for Preservation and Restoration.
- General description and location(s), demonstrating it occurs within the Coastal Program Area (see Chapter 3). For a site-specific area, a letter of support from the landowner and a map clearly showing the location of the area must also be included.
- Identification of criteria, as identified in this chapter, which qualify the site for consideration.
- Description of the area's coastal related values and current condition relative to those values.
- Description of area's management issues and any problems that may be degrading its ecological, recreational, cultural, historical, or esthetic values.

The LMCP will review nominations annually and, prior to approval, will seek comments from:

- Appropriate federal, state, and local agencies;
- The Natural Resources Commission; and
- Members of the public in the coastal region.

A new APC category or site-specific APR will be created if the LMCP determines both that the primary values of the area in question are being degraded and that the existing management frameworks are insufficient to fully address the situation. If creation of a new APC category is necessary, the LMCP will prepare a statement that justifies its designation. The statement will include an explanation of how improved management strategies will alleviate the principle concerns. The new APC would then be submitted to OCRM for final approval.

## **Section I: Categories of Areas of Particular Concern**

This section identifies general areas of particular concern in the coastal region, the nature of the concern for the area, guidelines on priority uses, and criteria for designation within the category. Efforts by the LMCP to address APC identified in this chapter can include:

- Increased consideration in the implementation of the Coastal Grants Program.
- Improved coordination between entities exerting a significant affect on the area.
- Increased research and technical assistance to improve the management, understanding, and recognition of the area.
- Increased attention to monitoring the health and function of the area.

## Categories of Areas of Particular Concern

### Areas of unique, scarce, fragile or vulnerable natural habitats

#### Nature of the Concern

The natural heritage of Northwest Indiana contains many unique and vulnerable natural habitats formed from the advance and retreat of the glaciers and the migration of species from all geographic directions. Many natural communities developed as the glaciers retreated, each supporting a unique assembly of plants and animals, and each requiring natural disturbances to maintain that assembly. Natural communities in the coastal region include beach and foredune, forest, wetland, prairie, and lake. Table 8.1 outlines the natural community classification used for the LMCP. Together, the natural components of these communities are what constitute biological diversity or biodiversity.

“Settlement affected three factors that historically maintained Indiana’s biological diversity: fire, water levels, and regeneration of forests.”<sup>1</sup> The loss and degradation of northwestern Indiana’s prairies, wetlands, forests, dunes, and the resulting loss of plants and animals has left many surviving areas vulnerable to further degradation.

The Indiana Natural Heritage Program identifies and tracks the status of key biodiversity features. The Natural Heritage Program has identified 314 elements within Indiana’s Coastal Program Area that are critically imperiled, imperiled, or rare on a global scale. These include animal and plant species as well as natural community types. The Natural Heritage Program has documented the occurrence of these elements at over 1,572 locations in the Lake Michigan watershed. The information provided by the Indiana Natural Heritage Program is valuable for conservation planning; however, much is still not known about the biodiversity of Indiana’s coastal area. Inventories are incomplete for certain element groups, including aquatic elements, invertebrates and non-vascular plants such as mosses and lichens.

Over 1,000 native plant species occur in the region, which makes Indiana’s coastal area one of the most botanically rich areas in the United States. This wealth of plant biodiversity includes plant species found nowhere else in the state or in the Southern Lake Michigan basin. Many of the area’s animal communities, including grassland birds, woodland birds, savanna reptiles and amphibians, marsh reptiles and amphibians, prairie insects, and savanna and woodland insects, are also both locally and globally important for conservation.<sup>2</sup> The coastal area also harbors the highest number of endangered, threatened, and rare species in Indiana (4 amphibians, 28 birds, 2 fish, 17 insects, 3 mammals, 8 reptiles, and 218 plants).

In 1979, DNR conducted an inventory of natural areas in the watershed. The inventory located 258 parcels that required further investigation to determine habitat quality. After field investigation, 30 parcels were found to be notable for their importance on a regional level for teaching, research, public enjoyment, and as wildlife areas. However, notable areas did not meet the more stringent criteria for designation as statewide significant natural areas. Seventeen areas were identified as statewide significant natural areas with a total of 1,290 acres. Several of these sites contained ‘very high’ and ‘high’ quality natural communities.<sup>3</sup>

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<sup>1</sup> Environmental Law Institute 1995. Indiana’s Biological Diversity: Strategies and Tools for Conservation.

<sup>2</sup> Chicago Wilderness, June 30, 1999. Biodiversity Recovery Plan.

<sup>3</sup> Indiana State Planning Services Agency April 30, 1979. Prepared by Indiana Department of Natural Resources and Natural Land Institute. An Inventory of Natural Areas in the Indiana Coastal Zone Study Area, Technical Report No. 302.

In 1996, an effort was made to revisit all the high quality sites identified in the 1979 study. Additional areas that had been located in subsequent years were also investigated. This study found that the majority of the sites identified in 1979 were still intact and several of them can be considered protected. Many of the additional sites were also protected in whole or in part. In total, 36 sites were at least partially protected but 17 sites were no longer considered to be natural areas. Protection ranged from federal, state, local, and non-profit organizations such as the Indiana Dunes National Lakeshore, DNR Division of Nature Preserves, Lake County Parks, the Nature Conservancy, and the Shirley Heinze Fund. Although there has obviously been considerable success in protecting these important natural treasures, some have been lost as natural areas. Most of those lost were degraded as the result of invading exotic plants, two were lost to woody encroachment, and five were lost to development activities.<sup>4</sup>

At least one high quality example of most of the natural community types was found to be protected in 1996. However, examples of northern sand flatwoods and several types of seeps are not currently protected. The 1996 study also found most natural areas had been lost in recent years from degradation due to invading exotic plants and shrubby encroachment.<sup>5</sup>

Conservation of Indiana's biodiversity provides numerous benefits including commercial uses for food, fuel, fiber, and other products; support of fishing and hunting and use of other natural products; recreational opportunities; scientific research; and ecological services such as photosynthesis, water purification, and flood control.

#### Guidelines on Priority of Uses

Priority uses in areas of unique, scarce, fragile or vulnerable natural habitats are those uses that provide for the maintenance of the area's natural values in perpetuity. In addition, priority uses for those areas protected by state law can be found in Chapter 5: Existing Management Authorities. Uses of lowest priority are those uses that degrade the ecosystem's integrity so that the area no longer is capable of supporting characteristic species of plants and animals.

#### Criteria for Designation

- Habitat of endangered or threatened plant or animal species
- Natural areas that contain high quality natural communities, and usually contain species of plants or animals considered endangered, threatened, or rare
- Areas that contain assemblages of rare species including one or more species of plant or animal considered rare, special concern, or watch list
- Areas that contain natural community types that are rare in the State of Indiana (Table 8.1).
- Dedicated state nature preserves (See Chapter 9: Shoreline Access and Recreation)
- Streams classified as natural, scenic, or recreational rivers

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<sup>4</sup> Indiana Department of Natural Resources, Division of Nature Preserves April 1998. The Status of Natural Areas in Indiana's Coastal Zone: A comparison: 1979-1996.

<sup>5</sup> Indiana Department of Natural Resources, Division of Nature Preserves April 1998. The Status of Natural Areas in Indiana's Coastal Zone: A comparison: 1979-1996.

## **Areas of historical significance, cultural value, or substantial recreational value or opportunity**

### **Nature of the Concern**

Indiana has a rich heritage of significant historical and cultural resources that place Hoosiers in our national history and provide substantial recreational and educational value. Northwestern Indiana's cultural resources include: Prehistoric and historic archaeological sites and resources; Early settlement resources; Ethnic heritage and resources; Agricultural resources and farmsteads; Wood, metal, and concrete bridges; Educational institutions and libraries; Social institutions, fraternal orders, and religious resources; Social welfare institutions; Transportation-related resources; Urban planning and historic designed landscapes; Industrial resources; and Resources from the recent past.

However, threats to these resources are common. Common threats include closure and demolition of buildings and transportation facilities, the decline of main streets and downtown areas, the lack of preservation ordinances in historic districts, and the lack of legal protection for post-1816 archaeological artifacts.<sup>6</sup>

The DNR conducted an inventory of cultural and historic resources for the coastal area. The Indiana Historic Sites and Structures Inventory has been a continuing program of the State's Division of Historic Preservation and Archaeology since 1975. This inventory identifies and records all potentially important historic buildings, bridges, sites, and other items on inventory forms and computer databases. In addition, the Division of Historic Preservation and Archaeology added a new database and survey of historic bridges in 1987 that combines the records from other state and local inventories. Engineering landmarks, such as iron, timber, and historic masonry bridges are being identified, recorded, and cataloged into the Historic Bridge Survey and Database Program.

A similar program exists for archaeological resources. The DNR Division of Historic Preservation and Archaeology is the central repository for archaeological records and initiates a statewide inventory. In 1998, the coastal region had over 1,336 archaeological sites. However, each year, new sites are recorded and logged into the Division's archaeological survey files.

In 2000, the DNR conducted a study, in cooperation with a focus group of local experts, of existing plans for the protection and restoration of historic and cultural resources in the Lake Michigan watershed.<sup>7</sup> This study identified the themes and sites that were most often named by local plans as significant in the historic and cultural development of the region. The themes identified represent the various types of resources found in the watershed. They are downtown commercial districts; industry; residential districts; transportation; agriculture; natural-green space; recreation-green space; significant architecture; culture-education; culture-religious; culture-sculpture; railroad; cemeteries; bridges; and Native American sites. The study created a database of numerous important sites for each of these categories and can be found at the Lake Michigan website: <http://www.in.gov/dnr/lakemich/>

Ancient shipwrecks also represent an important cultural and historical resource for Indiana and the Lake Michigan coastal area. Based on archival and documentary research, the 225 square miles of lakebed controlled by Indiana are thought to contain as many as 50 shipwrecks for vessels lost since the 1830's. The largest number of prospective shipwrecks in the Indiana waters of Lake Michigan date from 1851

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<sup>6</sup> Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology. Indiana's Cultural Resources Management Plan 1998-2003.

<sup>7</sup> Indiana Department of Natural Resources. The Coastal Historic and Cultural Resources of the Lake Michigan Watershed. January 2001 by Shive-Hattery, Inc. [www.state.in.us/dnr/lakemich](http://www.state.in.us/dnr/lakemich)

through 1900, while the greatest number of known shipwrecks is for the period between 1880 and 1920. The 36 wrecks of this period, 13 of which sank between 1871 and 1880, represent over 70% of the total prospective inventory. A broad spectrum of vessel types is included in the inventory. Among them are bulk freighters (lake types, self-loaders, and cannallers), passenger ships (lake types and sidewheelers), package freighters, and car ferries. Serious efforts to inventory shipwrecks within Indiana waters of Lake Michigan did not begin until the mid-1980s. By 1989, 14 vessels had been located and eight inventoried.

Additional data is needed to gain a full understanding of this cultural resource. Submerged within the southern limits of Lake Michigan, often in shallow water, shipwrecks are exposed to numerous natural and human impacts. All of the shipwreck sites within the Indiana inventory have been affected by vandalism and looting. In most instances, the easiest items to remove from a site have already been removed. However, today there is a better understanding among sport divers of the need to protect sites for their own and the future enjoyment of others.

Substantial recreational value is also derived from natural and cultural resources in the coastal area. Additional information about issues and needs associated with recreation in the Lake Michigan watershed is found in Chapter 9. The Statewide Comprehensive Outdoor Recreation Plan (SCORP), produced by the DNR, evaluates recreational opportunities for Indiana. The primary provider of outdoor recreation lands in Indiana is the public sector. Federal, state, and local government agencies provide the majority of recreation facilities and open space in Indiana. In the 1994-1999 SCORP, total public recreation acres of Lake, Porter, and LaPorte counties was found to be 34,425.67 acres which equates to a total recreation acres per person of 0.048 acres.<sup>8</sup> The National Park and Recreation Association has recommended standards for the amount of recreation and open space provided to citizens. Recreational planners can use these standards as a tool to measure how recreation space availability compares to the population that uses it. The standard for local recreation space is approximately 0.02 acres per person or 20 acres for every 1000 people.<sup>9</sup>

Lake Michigan's beaches and access for water recreation is an important facet of the coastal area's recreational opportunities. In 1996, the LMCP and the Division of Outdoor Recreation surveyed people using the lakeshore. The top three activities were swimming, power boating, and picnicking. Other top activities were nature observation, hiking/walking, and boat fishing.<sup>10</sup> In addition to a survey of lakeshore users, focus groups met to discuss issues associated with recreation. "In general, the majority of the attendees felt there is a lack of adequate access to the lakeshore. Along with the basic deficiency, people felt the access that did exist was inconsistent in pricing, hours open, security, facilities offered, access for persons with disabilities, and policies and enforcement."<sup>11</sup> A more detailed discussion of recreation can be found in Chapter 9: Shoreline Access and Recreation.

#### Guidelines on Priority of Uses

The DNR Division of Historic Preservation and Archaeology and local ordinances set guidelines on priority uses for resources of cultural and historic value. Priority uses in these areas are those which maintain or enhance attributes of the area identified in historic district ordinances developed by local units of government. Uses of lowest priority for sites of historic or cultural significance are those uses that would destroy or diminish those attributes.

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<sup>8</sup> Indiana Department of Natural Resources, Division of Outdoor Recreation, 1994. Statewide Comprehensive Outdoor Recreation Plan 1994-1999. P. 127.

<sup>9</sup> Indiana Department of Natural Resources, Division of Outdoor Recreation, Statewide Comprehensive Outdoor Recreation Plan 1994-1999.P. 114.

<sup>10</sup> Indiana Department of Natural Resources, 1998. Lake Michigan Indiana Recreational Access Guide. P. 9.

<sup>11</sup> Indiana Department of Natural Resources, 1998. Lake Michigan Indiana Recreational Access Guide. P. 5.

Priority uses for areas of substantial recreational value are those uses that encourage access by the public and provide a quality recreational experience. Specific uses for recreational sites are set by the public entity managing the land. A discussion of regulations governing the use of these sites can be found in Chapter 5: Existing Management Authorities. Uses of lowest priority for sites of recreational significance are those uses that prevent public access.

#### Criteria for Designation

- Site, district, object, and building significant in the development of Indiana, local history, architecture, archaeology, and culture that possesses integrity of location, design, setting, materials, and workmanship
- Properties rated as “Outstanding” or “Notable” in the Indiana Historic Sites and Structures Inventory (available from the Division of Historic Preservation and Archaeology)
- Property achieving historical significance within the past 50 years
- Archaeological sites whose contextual integrity has not been significantly altered by natural sources or human activities
- Existing public access sites to lakes, fishing along the shoreline and boat ramp facilities (See Chapter 9: Shoreline Access and Recreation)
- Areas along the Lake Michigan shoreline and salmonid streams that are suitable to provide public fishing access, are not presently providing access, and would not interfere with other areas of concern
- Areas that are conducive to the expansion of interpretive and educational facilities
- Marshes, bogs, and swamps of significant recreational value for sport fishing, hunting, and or wildlife viewing
- Areas suitable to trail opportunities for walking, hiking, bicycling, horseback riding, and cross-country skiing
- Public lands managed by the Division of State Parks or the Division of Fish and Wildlife (See Chapter 9: Shoreline Access and Recreation)
- Offshore shipwrecks

#### **Areas of high natural productivity or essential habitat for living resources, including fish, wildlife, endangered species, and the various trophic levels in the food web critical to their well-being**

##### Nature of the Concern

Wildlife management has long recognized that certain habitats provide essential resources at key life stages for many species. Without these essential habitats, species populations can be dramatically affected. Essential habitats that support key life stages include breeding grounds, migratory stopover habitat, rearing habitat, and wintering habitat. Essential habitats can include a range of habitat types for one species. For example, many reptile and amphibian species require aquatic habitats for breeding and for the development of their young. These aquatic habitats, sometimes only temporary wetlands, provide needed food, water, and protection from predation. During the remaining stages of life these species use other types of habitat including dry woodlands. Other species use different habitat types during the fall and winter. Copperbelly water snakes move from dry forest habitat to wetlands each spring where their main food supply exists, and they return to their forest dens in the fall.<sup>12</sup>

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<sup>12</sup> Environmental Law Institute 1995. Indiana’s Biological Diversity: Strategies and Tools for Conservation, P. 24. Environmental Law Institute, Washington D.C.

A second example of a key life stage is the need for migratory stopover habitat for thousands of birds that migrate between breeding and wintering grounds. Northwest Indiana is part of the Mackenzie Valley-Great Lakes-Mississippi Valley route of migration. Although much of today's knowledge of this migration route relates primarily to waterfowl, it is known that a large number of many species migrate through this region. Species of ducks, geese, shorebirds, blackbirds, sparrows, warblers, and thrushes use this migration route. The Mackenzie Valley-Great Lakes-Mississippi Valley route extends from the Mackenzie Valley in Alaska, covers the Great Lakes, and turns down the Mississippi Valley making it the longest in the Western Hemisphere.<sup>13</sup>

The shoreline is especially important for migrating birds. "Lake Michigan affects the movement and distribution of birds by acting as an obstacle to migrants. The shores of this enormous lake provide leading lines that control flight paths of numerous migrants."<sup>14</sup> Migration distances can be substantial and the resulting loss of body fat makes it essential to immediately land for rest and feeding. The need to 'refuel' "generates an anomalously high concentration of passerines in park woodlands immediately adjacent to the lake."<sup>15</sup> One group of migratory birds, referred to as neotropical migrants, migrate long distances to breed in northern forests and spend winter in the tropics. In Indiana, over 40 neotropical migratory bird species are species of special management concern because of declines in their populations.<sup>16</sup> A second group of birds requiring stop-over and coastal breeding habitat are shorebirds. Although the majority of shorebirds migrate to the arctic circle in the spring, a few species such as the Piping Plover, listed as a federally endangered species, reproduce in the coastal and interior regions. From 1930 to 1987, the piping plover was considered common. The plover vanished as a nesting species from many areas beginning in the 1930s, with dramatic losses in the Great Lakes region. Censuses as recent as 1997 accounted for only 3,500 to 4,200 individuals throughout the range of the species. The causes for this drastic decline can be linked to the loss or alteration of nesting and wintering areas.

In May of 2001, the U.S. Fish and Wildlife Service designated critical habitat for the piping plover. Critical habitat is a term used in the Endangered Species Act of 1973, as amended. It refers to specific geographic areas that are essential for the conservation of a threatened or endangered species and that may require special management consideration or protection. These areas do not necessarily have to be occupied by the species at the time of designation. This means that areas must be identified which will allow for the protection of the current population, and any population increases that may be required to achieve recovery (allowing the species to be removed from the endangered species list). In Indiana, critical habitat for the piping plover has been designated by the U.S. Fish and Wildlife Service on 4.9 miles of Lake Michigan shoreline in Porter County. It includes areas that were historically occupied by piping plovers. The designation includes 3.1 miles of Indiana Dunes State Park Shoreline and 1.8 miles of Indiana Dunes National Lakeshore shoreline. The area extends from the western boundary of the Cowles Bog/Dunes Acres lakeshore unit, east of the Port of Indiana and the NIPSCO Baily Generating Station and along the Indiana Dunes State Park to Kemil Road at Beverly Shores.

Fisheries management has also focused on essential habitat needed for a productive population of both game and non-game species. Nearshore waters are essential for nearly all species of Great Lakes fish "for everything from permanent residence, to migratory pathways, to feeding, nursery grounds, and spawning

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<sup>13</sup> Lincoln, Frederick, C. and Steven R. Peterson. 1979. Migration of birds. Circular 16, U.S. Department of the Interior, U.S. Fish and Wildlife Service, Washington, D.C. Northern Prairie Wildlife Research Center Home Page. <http://www.npwrc.usgs.gov/resource/othrdata/migratio/migratio.htm> (Version 16JAN98).

<sup>14</sup> Brock, Kenneth J. 1986. Birds of the Indiana Dunes. Bloomington: Indiana Univ. Press, 1986. 178 pp.

<sup>15</sup> Brock, Kenneth J. 1986. Birds of the Indiana Dunes. Bloomington: Indiana Univ. Press, 1986. 178 pp.

<sup>16</sup> Environmental Law Institute 1995. Indiana's Biological Diversity: Strategies and Tools for Conservation, P. 8. Environmental Law Institute, Washington D.C.



areas”<sup>17</sup>. Fish species have specific requirements for conditions on spawning grounds. For example, salmonid species require cool water temperatures and a gravel streambed for spawning. Salmonid species return to the same general location to spawn, making these areas essential for many generations of Salmon.

Wetlands and riparian corridors represent highly productive habitats. Riparian corridors can provide nutrients, shade, and microhabitats for many levels of the aquatic food web. Without the interaction between riparian corridors and the stream, productivity of the aquatic habitat is diminished. Wetlands are extremely productive due to the many functions they serve in the landscape. Wetlands provide flood control, improve water quality, support productive fish habitat, provide principal habitat for many waterfowl, support an enormous diversity of plants, recharge groundwater, reduce erosion on streams and lakes, and support a multi-billion dollar fishing, hunting and outdoor recreation industry.<sup>18</sup> “The fact that the majority of the wetland resources once present in Indiana have been lost or altered makes wetlands especially critical resources for conservation.”<sup>19</sup>

The National Wetlands Inventory by the U.S. Fish and Wildlife Service initiated in 1981 identified and classified Indiana's wetlands at a regional scale. Analysis of this data shows that the Lake Michigan region contains about 7, 242 wetlands covering a total of approximately 65 to 68 square miles or roughly 11% of the total land area.<sup>20</sup> It was also determined that approximately 98% of the region's wetlands were classified as palustrine wetlands and these constituted about 92% of the total wetland area. Approximately 6% of the wetland area was lacustrine wetland and 2% was riverine wetland.<sup>21</sup>

In 1979, the DNR selected and studied 45 wetland areas of greater than 25 acres within the Lake Michigan watershed. Following field inspection and cover typing, the wetlands were rated based on size, type, diversity, fisheries, adjacent development, and adjacent land use.<sup>22</sup> In 1996, the top 25 priority sites were revisited by the DNR Division of Nature Preserves to reevaluate and determine whether the wetlands had changed in terms of size, cover type, and context. In general, the wetlands were basically intact. All were at least as large as they were in 1979, and two had increased in size due to a man-made pond and cropland reversion. A major trend was that certain types had become more bushy and woody and in a few cases exotic species had invaded. The biggest change was that many had become more urbanized in context. More than half of the wetlands have some housing developments, industrial sites, or a golf course as a neighbor. So, while none of the wetlands have been filled or destroyed, their integrity is now somewhat threatened due to adjacent development. As of January 2001, only seven of the 25 priority wetlands are under some form of protection.<sup>23</sup>

The DNR Division of Fish and Wildlife has designated public and private lands that provide productive habitat for fish and wildlife through the voluntary Classified Wildlife Habitat Program. These are areas capable of supporting wildlife species and are managed by the standards of good wildlife management.

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<sup>17</sup> U.S. Army Corps of Engineers, Detroit District, and the Great Lakes Commission 1999. *Living with the Lakes: Understanding and Adapting to Great Lakes Water Level Changes*. ISBN 0-9676123-0-6.

<sup>18</sup> World Wildlife Fund, 1992. *Statewide Wetlands Strategies: A Guide to Protecting and Managing the Resource* P. 4-6. Island Press, Washington D.C.

<sup>19</sup> Indiana Department of Natural Resources, June 1996. *Indiana Wetlands Conservation Plan*. P. 1

<sup>20</sup> Indiana Department of Natural Resources, Division of Water, 1994. *Water Resource Availability in the Lake Michigan Region*, Indiana, P. 64. State of Indiana.

<sup>21</sup> Indiana Department of Natural Resources, Division of Water, 1994. *Water Resource Availability in the Lake Michigan Region*, Indiana, P. 64. State of Indiana.

<sup>22</sup> Indiana State Planning Services Agency April 30, 1979. Prepared by Indiana Department of Natural Resources. *A Priority Rating of Selected Wetlands in the Indiana Coastal Zone Study Area*, Technical Report No. 303.

<sup>23</sup> Indiana Department of Natural Resources April 1998. *The Status of the Top 25 Priority Wetlands in Indiana's Coastal Zone: A Comparison 1979-1996*.

The Division of Forestry has also designated productive public and private lands that maintain a healthy forest environment through the voluntary Classified Forest Program.

#### Guidelines on Priority of Uses

Priority uses for areas of high productivity are those uses that maintain or improve the integrity of such habitat and support wildlife and plant populations. A discussion of regulations governing the use of these sites can be found in Chapter 5: Existing Management Authorities. Uses of lowest priority are those uses that degrade ecosystem's integrity so the area no longer is capable of supporting characteristic species of plants and animals.

#### Criteria for Designation

- Sites designated as Salmonid streams and tributaries required for spawning and release sites
- Isolated marshes, bogs, and swamps including those not regulated by federal and state laws
- Offshore waters used by migratory waterfowl
- Stopover habitat used by migratory birds
- Public lands managed by the Division of Fish and Wildlife: Fish and Wildlife Areas or Wetland Conservation Area (See Chapter 9: Shoreline Access and Recreation)
- Private lands voluntarily enrolled in state programs administered by the Division of Fish and Wildlife: Classified Wildlife Habitat
- Private lands voluntarily enrolled in state programs administered by the Division of Forestry: Classified Forests and areas within the Forest Legacy Program
- Shoreline waters required for the reproduction of fish species other than salmonids
- Riparian corridors and in-stream habitat
- Wetlands including marshes, bogs, fens, mesic and wet prairie, and swamps as identified by the U.S. Fish and Wildlife Service National Wetlands Inventory

#### **Areas needed to protect, maintain, or replenish coastal lands or resources including coastal flood plains, aquifers and their recharge areas, sand dunes, and offshore sand deposits**

##### Nature of the Concern

The interaction of surface and groundwater maintains and replenishes wetlands, flood plains, and aquifers. Some areas such as wetlands are sites of groundwater discharge, where groundwater moves towards the surface. Other sites, or sometimes the same sites under differing environmental conditions, recharge aquifers and the groundwater. The recharge potential of wetlands is affected by many factors including wetland type, location, season, soils, and precipitation, and appears to be more important in small wetlands than large ones.<sup>24</sup> Based on the National Inventory of Wetlands, about 40% of the Lake Michigan region's wetlands are one acre or smaller; 48% are between 10 and 40 acres; and 2% are greater than 40 acres. Location serves a vital role in determining the contribution of these wetlands to the aquifer.

The interaction between ground water and surface water can also moderate seasonal water level fluctuations. During dry periods, ground water discharge can help maintain water levels in streams. For example, the surface sands in the northern part of the region, the Calumet Aquifer, allow discharge from the ground water to Lake Michigan, the Little Calumet River, and to the Grand Calumet River. However,

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<sup>24</sup> Indiana Department of Natural Resources, June 1996. Indiana Wetlands Conservation Plan. P. 12

streams can also recharge ground water through saturated flood plain soils or through streambeds when the water table falls below the elevation of the water's surface.

The complexities of the major aquifer systems and the importance of recharge areas were assessed by the report, "Atlas of Hydrogeologic Terrains and Settings of Indiana". The report describes the Lake Michigan region as having two hydrogeologic environments, the Valparaiso Moraine and the Lake Border.

The Valparaiso Moraine consists of a variety of geologic settings formed by the movement of the glacial ancestor of Lake Michigan. The most extensive setting within the Valparaiso Moraine is the exposed outer outwash fan between the city of Valparaiso and the Michigan state line. The exposed outer outwash fan is mainly a gentle sloping surface underlain by thick sand and some gravel. "Large areas of the eastern part of the exposed fan in LaPorte County are intensely pitted, reflecting collapse caused by melting of buried ice blocks. Many of the resulting depressions are bogs filled with peat and muck."<sup>25</sup> Within the outwash fan is a belt of several places with irregular topography, referred to as an inner collapsed fan head. This setting represents one or more ice front positions and contains fine-grained sediments of irregular thickness atop coarse fan sediments.<sup>26</sup> The exposed outer outwash fan and the inner collapsed fan head have the characteristics of recharge areas. In addition, "the greatest sensitivity to contamination in this region is likely to be associated with those parts of the outer exposed fan characterized by a relatively shallow zone of saturation".<sup>27</sup>

The Lake Border is the area between the north edge of the Valparaiso Moraine and Lake Michigan. This section contains beach and nearshore features, dunes, beach ridges, and interdunal wetlands. The "Atlas of Hydrogeologic Terrains and Settings of Indiana" describes two components to the Lake Border: 1) a shallow water table associated with the dune and swale regions and other areas of surface sand and 2) deeper systems of various confined and semi-confined sand and gravel aquifers. The "entire lake border terrain is predominantly a regional discharge area for confined aquifers, with strong upward gradients typical; the ground water flow pattern is much more localized in surface sandy soils, with dunes and swales acting as local recharge and discharge areas, respectively."<sup>28</sup> The surficial aquifers and some of the deeper ones are hydrologically connected in areas along streams such as the Deep River.<sup>29</sup> The Lake Border setting also has a shallow ground water system, except beneath the largest dunes, and has high rates of infiltration. These characteristics increase its sensitivity to contamination.

Maps of the hydrogeologic terrains that are most likely to serve as recharge areas are being developed. These maps will be included to demonstrate the general area in which these settings can be found rather than to provide exact locations.

Offshore deposits are an important source of sand to replenish the lakeshore and to reduce the energy of waves approaching the shoreline. The strongest and fastest currents found in Lake Michigan are concentrated around the edge of the lake in a narrow breaking wave zone, starting in water depths

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<sup>25</sup> Fleming et al. 1995. Atlas of Hydrogeologic Terrains and Settings of Indiana. Indiana Geological Survey Open –File Report 95-7.

<sup>26</sup> Fleming et al. 1995. Atlas of Hydrogeologic Terrains and Settings of Indiana. Indiana Geological Survey Open –File Report 95-7. P. 2.10

<sup>27</sup> Fleming et al. 1995. Atlas of Hydrogeologic Terrains and Settings of Indiana. Indiana Geological Survey Open –File Report 95-7. P. 2.11

<sup>28</sup> Fleming et al. 1995. Atlas of Hydrogeologic Terrains and Settings of Indiana. Indiana Geological Survey Open –File Report 95-7. P. 2.18

<sup>29</sup> Fleming et al. 1995. Atlas of Hydrogeologic Terrains and Settings of Indiana. Indiana Geological Survey Open –File Report 95-7. P. 2.16

between 18 to 20 feet deep and extending to the beach. This zone is also the location of the greatest volume of sand transport (littoral drift).

#### Guidelines on Priority of Uses

Priority uses are those uses that protect, maintain, or replenish coastal lands and waters. In addition, priority uses for those areas managed by state policy can be found in Chapter 5: Existing Management Authorities. Uses of lowest priority are those uses that degrade the ecosystem integrity so that the area no longer is capable of supporting coastal resources.

#### Criteria for Designation

- Areas eligible as filter strips under the Filter Strip Act
- Undeveloped flood plains
- Wetlands as identified by the U.S. Fish and Wildlife Service National Wetlands Inventory
- Recharge areas mapped in the Atlas of Hydrogeologic Terrains and Settings of Indiana
- Sand dunes
- Offshore sand deposits

#### **Areas where development and facilities are dependent upon the use of, or access to, coastal waters or areas of unique features for industrial or commercial uses or dredge spoil disposal**

#### Nature of the Concern

Indiana's coastal region supports a diverse economy with international and national shipping, steel production, fishing industries, and recreational industries. However, Indiana's 45 miles of shoreline is subject to competition for space and resources from many of these interests as well as residential development and public access.

The CZMA gives priority to coastal-dependent uses related to fisheries development, recreation, ports and transportation, and the location, to the maximum extent practicable of new commercial and industrial development in or adjacent to areas where such development already exists.<sup>30</sup> Indiana's shoreline supports these coastal-dependent uses in some form including marinas, commercial and charter fishing, and ports and harbors. Many areas along the shoreline are of particular value for their contribution to coastal-dependent uses.

The Indiana Port Commission manages the operation, maintenance, and expansion of Port of Indiana facilities. The Indiana Port Commission has articulated several planning principles for coastal-dependent uses. These include efforts to maximize use of existing facilities; reserve waterfront sites for waterfront activities; locate activities to minimize conflicts; maximize flexibility of use; and enhance water, road, and rail connections<sup>31</sup>. The Indiana Port Commission's planning process identifies ports and related facilities associated with waterborne transportation, docking and mooring areas, port loading facilities, and shipping channels.

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<sup>30</sup> CZMA Section 303(2)(D), 16 U.S. C. Section 1452 (2)(D).

<sup>31</sup> Indiana Port Commission 1994-1996 Business Plan.

An important component of harbor maintenance is the disposal of dredge materials. The ACOE is responsible for dredging certain harbors. In addition, representatives of IDEM and the Indiana Port Commission participate on the Great Lakes Dredging Team, a regional initiative to address the needs for dredging and dredge disposal. The policies and priorities of the Great Lakes Dredging Team may be used to identify areas for their value to the disposal of dredge material.

Urban waterfronts and vacant lands adjacent to the lake or connecting waterways are also areas of importance for the coastal region. Several important factors contribute to an area's significance for redevelopment including compatibility with existing zoning and land use; existence of easy access to modes of transportation, especially water; and existence of adequate utility systems. Waterfront revitalization involves the re-development of abandoned, previously developed lands along the shore and those areas in or near urban areas disturbed by past development. Revitalization can entail economic redevelopment as well as restoring environmental integrity and the visual and functional quality of the abandoned area. The revitalization of urban waterfronts also involves planning for integration with existing communities and the need to improve public access to the shoreline.

The cities of Gary, Hammond, and East Chicago were awarded federal funding from the U.S. Department of Housing and Urban Development as the Calumet Empowerment Zone in 1998. The Calumet Empowerment Zone will be administered through an Executive Committee and a coordinating council that will implement their goals for economic, environmental, and social reform. The Empowerment Coordinating Council consists of representatives from the community, business, and government. The Calumet Empowerment Zone designation and administrative structure provides these cities the opportunity to identify areas where waterfront revitalization and connections to inland communities can meet their goals. To date, each city has designated a redevelopment zone under this program.

In addition, in the 2001 Indiana Legislative session, the Lake Michigan Shoreline Development Commission (IC 36-7-13.5) and the Shoreline Environmental Trust Fund were created. This Commission, which consists of local and state representation, can prepare a comprehensive master plan for development and redevelopment within the Lake Michigan corridor. These locally lead efforts may assist in identifying areas along the shoreline that are of particular value for their contribution to coastal-dependent uses.

The shoreline of Michigan City, Long Beach, and Michiana Shores, also has additional local and county planning efforts for their portion of the shoreline. This primarily residential area includes Washington Park, several marinas and several service industry businesses such as restaurants. This portion of Indiana's shoreline has seen an increase in development to meet recreational uses as well as demand for residential housing.

Although the land-use of Indiana's shoreline may currently appear to be stationary; it is difficult to predict changes in ownership along Lake Michigan. Downsizing and changes in the steel-making process and other industrial shoreline facilities may affect the use of a percentage of currently industrial shoreline. In addition, inland communities may continue to work toward improving their connection to the shoreline through greenways and other transportation corridors.

#### Guidelines on Priority of Uses

Priority uses for these areas are those that support, develop, restore, and manage coastal dependent uses as well as those providing public shoreline access. In addition, priority uses for those areas managed by state law can be found in Chapter 5: Existing Management Authorities. Uses of lowest priority are those uses that prevent the development of coastal dependent uses in proximity to the resource required, prevent public access to the shoreline, and encourage development away from existing city centers.

### Criteria for Designation

- Prime industrial areas and urban waterfronts where 1) development is compatible with existing local zoning and land use; 2) there is easy access to modes of transportation, especially water; and 3) adequate utility systems exist
- Ports and related facilities associated with waterborne transportation
- Docking and mooring areas
- Port loading facilities
- Shipping channels
- Vacant lands adjacent to the lake or connecting waterways that are designated as brownfields for re-development of land previously used by industrial activities

### **Areas where if development were permitted, it might be subject to significant hazard due to storm, slides, floods, erosion, and settlement**

#### Nature of the Concern

Lake level fluctuations continue to occur in the Great Lakes. The level of each of the Great Lakes, including Lake Michigan, depends on the balance between the quantities of water received and the quantities of water removed. As the supply of water changes under natural outlet conditions in a lake, the lake-level and outflow adjust continually to restore a balance between the net supply of water to the lake and the outflow through its outlet. Lake levels affect extent of flooding, and shoreline erosion.

In addition to the natural process of the fluctuation of lake levels is the natural process of the transport of sediment, or sand, along the coastline. The waves and currents that transport sand are driven by wind. The intensity of storms on Lake Michigan plays a primary role in determining the amount of erosion that occurs in any year. Without storms, there would be no waves or currents to move large quantities of sand along the beach and lake bottom. Lake level affects whether waves attack low on the beach face when lake levels are low, or waves attack high on the back beach at the base of the erodible dune-bluff, when lake levels are high.

The ACOE described the early conditions of erosion on Indiana's Lake Michigan shoreline in a report completed in 1978 entitled "Report on Indiana Shoreline Erosion". The report details areas along the shoreline in Lake, Porter, and LaPorte Counties where erosion damage occurred and projects future erosion damages. Areas that were identified as having a non-critical recession rate of less than one-foot per year include Marquette Park, Miller Beach, and Ogden Dunes. Areas where erosion was occurring at a rate greater than three feet per year include Indiana Dunes National Lakeshore, Beverly Shores, Indiana Dunes State Park, Porter and Dune Acres. Recession rates at Long Beach and Duneland Beach are not identified in the ACOE report. The areas with recession rates of greater than three feet per year extend along 13 miles of Indiana's 45-mile shore. However, these 13 miles of shoreline are designated natural areas where development is not likely to occur or areas that already are protected by structures. The ACOE concludes in the report that of Indiana's 45 miles of shoreline, only 2¼ miles are subject to critical erosion. While this early report provides a useful summary of past conditions on the Indiana shoreline, new construction, beach nourishment, and lake level fluctuations have resulted in changes in these conditions.

In order to plan for coastal development and protection of the shoreline, long-term records are needed for a reasonable estimate of the "background" erosion rates that can be expected for a particular portion of the

shoreline. Erosion rates typically vary from high erosion to low erosion periods, determined by climatic "storminess," long term changes in "lake level," and the influence of sand availability due to man-made structures. Some years may see high erosion because of a combination of severe storm events, high lake level, and severe sand starved conditions. Some years may see low erosion because of mild storms, low lake levels and abundantly wide sand beaches. Averaging the episodes of high and low erosion should provide a fairly good estimate of "long term erosion rates" to allow a fairly accurate estimate of future erosion.

A High Erosion Hazard Area (HEHA) is a portion of the shoreline with a long-term erosion rate greater than one foot per year. The Indiana shoreline of Lake Michigan includes several HEHAs; however, many of the areas are currently protected from erosion by man-made structures or are included in the national lakeshore or state park where the shoreline is preserved in its natural condition. Although these HEHAs are protected or preserved they are considered Coastal Areas of Significance due to the need for maintenance or to better understand the coastal processes affecting these areas. The pattern of rise and fall of Lake Michigan is unpredictable, but there is no doubt there will continue to be significant changes in lake elevation. The storm events that occur during periods of high lake levels can cause the lake to have devastating impacts on the shoreline, sometimes regardless of the existing erosion protection.

High Erosion Hazard Areas in LaPorte County include areas located in Michiana Shores and Long Beach east of Michigan City. This portion of the shoreline has been protected by rock revetment in order to protect Lake Shore Drive. Seawalls have also been constructed by private homeowners. West of Michigan City, the National Lakeshore owns portions of the shoreline. Areas such as Crescent Dune and Mount Baldy are intended to remain as natural shoreline. Here, nonstructural methods of controlling erosion (beach nourishment) have been used in 1974, 1981, and 1987 and from 1996 through 2000. Beach nourishment is also planned for 2001.

High Erosion Hazard Areas in Porter County include areas located in Indiana Dunes State Park, Town of Porter, Dune Acres, Burns Harbor, Ogden Dunes, and West Beach. The HEHA identified on property owned by the Indiana Dunes State Park is maintained as natural shoreline. The HEHA in the Town of Porter is just a short length of shoreline and although all of the shoreline owned by the Town of Dune Acres is a HEHA, only a minimal area is left unprotected by hard structures.

While only slightly less than one mile of shoreline extending west of the Burns Small Boat Harbor structure is considered a HEHA, the area contains some of the highest erosion rates on Indiana's coastline. The first 1,000 feet is owned by the Indiana Dunes National Lakeshore and is maintained as natural shoreline. During the March 9, 1998 blizzard, this part of the shoreline eroded 40 feet. This area has received beach nourishment in the past. In 2000, when the ACOE dredged the navigable channel of Portage/Burns Waterway, the clean dredge material was placed here forming a protective artificial dune-bluff. The western portion of the shoreline covered by this HEHA is within the Town of Ogden Dunes. In 1997, a new seawall built by the State of Indiana further protected the eastern most homes. Some form of erosion protection now essentially protects the whole residential community. In addition, clean sand from the dredging around the NIPSCO Bailly power plant water intake in Lake Michigan is deposited on the outer sand bars at Ogden Dunes, providing sand to this sand starved area of Indiana's shoreline.

The easternmost portion of the Lake County shoreline near Wells Street Beach (on the county line) is designated as a HEHA. The only other location along the shore in Lake County that could be evaluated for erosion potential was Whihala Park Beach in Whiting. Very little of the shoreline in Lake County is designated as a HEHA because most of the shoreline west of Gary has extensive erosion protection structures constructed by the shoreline industries. Evaluation regarding erosion potential is not feasible in these highly constructed areas.

### Guidelines on Priority of Uses

Priority uses of areas designated as hazardous due to dune-bluff recession rates are those uses that do not accelerate dune-bluff recession and allow natural land cover and processes that minimize the loss to erosion. In addition, priority uses for those areas managed by state policy can be found in Chapter 5: Management of the Coastal Area. Uses of lowest priority are those uses increase the risk of hazard to new or existing development.

### Criteria for Designation

- Areas with coastal dune-bluff recession rates greater than one foot per year and considered to be “High Erosion Hazard” areas (See Chapter 10: Shoreline Erosion and Mitigation Planning)

## **Section II: Areas for Preservation and Restoration**

This section identifies specific Areas for Preservation and Restoration (APR) in the coastal region. APR are specific sites that meet the criteria under generic APC for which an additional level of attention is needed. These are public or otherwise protected sites where the preservation and restoration of ecological, conservation, or recreational values are the dominant public policies. Although funds may also be used through the Coastal Grants Program to acquire sites that meet APR designation criteria from willing sellers, Indiana remains sensitive to the potential impacts on local economies that might result. Efforts by the Program to address APR are the same as those identified above under APC.

### **Designation Criteria:**

Several fundamental conditions must be met for a site to receive APR designation. First it must meet at least one of the criteria identified under the APC categories. Secondly, the special values of such a site must require additional restoration or protection to be fully achieved; methods required for restoration and protection must be identifiable and technically feasible. Finally, the site must be voluntarily submitted by the landowner and available, or potentially available, for public use, recognizing that restrictions may be necessary to protect the site’s character. Private lands without protection in perpetuity and without public access plans cannot be considered APR. These designation criteria must be clearly described when a nomination is submitted.

### **Designated Areas For Preservation And Restoration**

The LMCP will consider nominations for designated APR annually.



**Table 8.1 Natural Community Classification**

<b>1. Forest</b>	<b>3. Savanna</b>
a) Upland forest	a) Savanna
-dry-mesic upland forest*	-dry-mesic savanna
-mesic upland forest*	-Mesic savanna*
-wet-mesic upland forest	b) Sand Savanna
b) Dune forest	-dry sand savanna*
-dry dune forest*	-dry-mesic sand savanna*
-dry-mesic dune forest*	-mesic sand savanna*
-mesic dune forest**	<b>4. Aquatic</b>
c) Floodplain forest	a) Open water
-mesic floodplain forest	-perennial stream*
-wet-mesic floodplain forest*	-lake* (3)
-wet floodplain forest*	b) Marsh
d) Flatwoods	-marsh*
-boreal flatwoods*	c) Swamp
-northern sand flatwoods*	-swamp
<b>2. Prairie</b>	d) Bog
a) Prairie	-graminoid bog* (4)
-dry-mesic prairie	-low shrub bog* (1), (4)
-Mesic prairie*	-forested bog** (1), (4)
-wet-mesic prairie*	-tall shrub bog** (1), (4)
-wet prairie	-calcareous floating mat
b) Sand prairie	e) Fen
-dry sand prairie*	-graminoid fen*
-dry-mesic sand prairie*	-low shrub fen*
-mesic sand prairie*	-tall shrub fen
-wet-mesic sand prairie*	-forested fen** (5)
-wet sand prairie*	f) Sedge meadow
c) Hill prairie	-sedge meadow*
-glacial drift hill prairie	g) Panne
-gravel hill prairie	-panne*
-sand hill (dune) prairie** (1), (2)	h) Seep and spring
d) Shrub prairie	-seep*
-shrub prairie*	-calcareous seep
	-sand seep
	-spring
	<b>5. Primary</b>
	a) Littoral
	-beach**
	-foredune**
*Natural communities represented in natural and notable areas.	(1) Indiana Dunes National Lakeshore (2) Indiana Dunes State Park
**Natural communities extant but not represented in natural or notable areas	(3) Lake Michigan (4) Pinhook bog, LaPorte County (5) Cowles bog

## Chapter 9: Shoreline Access and Recreation

The State of Indiana has several mechanisms that provide for the planning and protection of public access to significant coastal areas. In addition, DNR has a shorefront access and protection planning process that provides attention to public beaches and other public coastal areas of environmental, recreational, historic, aesthetic, ecological, or cultural value. This process includes:

- Procedures for assessing public beaches and other public areas that require access or protection, and a description of appropriate types of access and protection.
- An identification and description of policies, authorities, programs, and other techniques that will be used to provide such access and planning.

This chapter includes 1) a definition of the term beach<sup>1</sup>; 2) a description of public access to recreation in Indiana; 3) the processes the state uses to plan for access; 4) an analysis of the supply of existing facilities and properties providing access; and 5) an assessment of trends in recreation needs and demand. The types of access addressed in this chapter include beaches, boating, parks and natural areas, trails, and historical and cultural areas.

### Recreational Resources and Existing Planning Procedures

#### Access to Public Beaches

Navigable waterways in Indiana's Lake Michigan watershed are Lake Michigan (234.5 square miles), Grand Calumet River, Little Calumet River, Trail Creek, Indiana Harbor and Ship Canal, and Portage Burns Waterway (Burns Ditch). The state holds ownership of these waterways, subject to the federal navigational servitude. Therefore, if lawful access to a navigable waterway is obtained, the public may generally use the waterway for recreational enjoyment and access to the shoreline. Of these waterways, Trail Creek and Portage Burns Waterway provide recreational access to the public portion of the shoreline. The NRC developed a roster of navigable waterways in 1992 to assist in planning for public access.<sup>2</sup> To further provide this information to the public, the roster was recently updated and placed on the Internet.<sup>3</sup>

A public beach for the LMCP includes the portion of the Indiana Lake Michigan coastline lying lakeward of the ordinary high water mark, as well as those held in parks or other public ownership. The "ordinary high watermark" is the limit of state (and federal) jurisdiction. For Lake Michigan, that delineation is set at elevation 581.5 feet, I.G.L.D. (1985).<sup>4</sup> The ACOE uses the same elevation for the southern shore of Lake Michigan. For other navigable waterways, the federal and state governments use on-site factors to determine the ordinary high watermark.<sup>5</sup>

Natural beach and dune features may consist of wide and narrow sand beaches at adjacent locations along the shoreline. However, several factors defy the use of one general description for natural beaches. Cobble beaches or hard clay layers may be exposed at the base of an eroding dune at waters edge after a storm event. Wind erosion can destroy large areas of terrestrial vegetation resulting in large bowl shaped blowouts extending far inland from the waters edge. Man-made structures on the coast further complicate

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<sup>1</sup> 16 U.S.C. 1455(d)(2)(G).

<sup>2</sup> Roster of Indiana Waterways Declared Navigable, 15 IND. REG. 2385 (July 1, 1992).

<sup>3</sup> See the Indiana Roster of Waters Declared Navigable or Nonnavigable at <http://www.state.in.us/nrc/navigable/index.html>

<sup>4</sup> 312 IAC 1-1-26.

<sup>5</sup> 312 IAC 1-1-26 and 312 IAC 6.

the use of one description for a beach. Groins, jetties, rock revetments, wood or concrete or sheet steel seawalls, and other means of altering the natural shoreline occur at many locations along Indiana's Lake Michigan coast.

The opportunity to access the coast or tributaries is conditional upon the ownership of the shoreline (above the ordinary high watermark). Approximately 21.8 miles of shoreline are heavily developed and have historically prohibited public access at these points, with the exception of limited fishing access in some areas. The remaining estimated 23.2 miles of Indiana shoreline are mostly sandy beaches. The Indiana Dunes State Park and the Indiana Dunes National Lakeshore provide most of the public access to beaches offering 18.25 miles of beach combined. The shorelines of Ogden Dunes, Dune Acres, Porter and Beverly Shores are included in the National Lakeshore. Approximately 5.6 miles of shoreline are public beaches owned and maintained by local units of governments in Hammond, Whiting, East Chicago, Gary and Michigan City. Individual riparian owners control the beach frontage along the Town of Long Beach. Duneland Beach is owned and controlled by the Duneland Beach Association. The shoreline mileage of these two communities is estimated at 3.05 miles.

There are several public beaches along the Indiana Lake Michigan shoreline.

#### Lake County

City of Hammond near the Hammond Marina  
Whihala Beach in Whiting  
Jeorse Park in East Chicago  
Lake Street Beach in Gary  
Marquette Park Beach in Gary  
Miller Beach in Gary  
Wells Street Beach in Gary

#### Porter County

Indiana Dunes National Lakeshore, West Beach Unit  
Ogden Dunes Beach in the Town of Ogden Dunes  
Dune Acres Beach in the Town of Dune Acres  
Porter Beach in the Town of Porter  
Indiana Dunes State Park  
Indiana Dunes National Lakeshore State Park Road-Kemil Avenue Beach  
Lakeview Beach  
Indiana Dunes National Lakeshore Central Avenue Beach

#### LaPorte County

Indiana Dunes National Lakeshore, Mount Baldy  
Washington Park in Michigan City  
Sheridan Beach  
Long Beach  
Duneland Beach  
Michiana Shores

As a practical matter, beach access is often contingent on available parking rather than on beach space.<sup>6</sup> Beaches of the communities of Miller, Ogden Dunes, Beverly Shores, and Porter Beach have limited access to nonresidents due to the lack of available parking on residential streets. The communities of

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<sup>6</sup> Indiana Department of Natural Resources, Public Access to the Indiana Shoreline of Lake Michigan and Selected Tributaries, 45 (April 30, 1979).

Duneland Beach and Long Beach offer public access sites; however, parking is limited. On holidays and hot summer weekends, cars sometimes line up waiting for a parking space at the Indiana Dunes State Park and the National Lakeshore.<sup>7</sup>

Access to the shoreline through private property has been arranged using local agreements such as the agreement between the Town of Ogden Dunes and the Indiana Dunes National Lakeshore. National Lakeshore properties are located adjacent to private property and are often separated by these properties. Walking agreements have been developed to allow pedestrians to cross private property to reach National Lakeshore properties along the lake.

Access to the shoreline from the water has been intensively debated. In 1989, a State Representative petitioned the NRC to adopt a rule prohibiting watercraft within 200 feet of the Lake Michigan shoreline between Warrick Street in Gary and the Lake-Porter County line. The petition was based on allegedly dangerous conditions, resulting from “density of watercraft intermixed with bathers . . . aggravated by the presence of a private facility sometimes referred to as the Wells Street Beach.”<sup>8</sup>

A series of public hearings considered prohibiting watercraft in specified areas along the shoreline. Those hearings ultimately resulted in the establishment, by rule, of several “no-boat zones.” Most of the legally established “no-boat zones” simply codified sites where boats had traditionally if not formally been prohibited.<sup>9</sup> “No-boat zones” currently exist for the following areas:

In Lake County, Hammond Marina, Whihala Beach near Whiting, Jeorse Park Beach Swimming Area at East Chicago, Lake Street Swimming Area at Gary, and the Marquette Park Swimming Area.<sup>10</sup>

In Porter County, the West Beach Swimming Area adjacent to Indiana Dunes National Lakeshore near Gary, the Porter Beach Association Swimming Area near Porter, the Porter Beach Swimming Area near Porter, the Indiana Dunes State Park Swimming Area, the Kemil Beach Swimming Area and the Central Avenue Beach Swimming Area adjacent to Indiana Dunes National Lakeshore and near Beverly Shores.<sup>11</sup>

In LaPorte County, the Mt. Baldy Swimming Area adjacent to Indiana Dunes National Lakeshore and the Washington Park Swimming Area adjacent to Michigan City.<sup>12</sup>

There are several beaches along Indiana’s Lake Michigan coastline where boaters can access the shore. In Lake County, boat-in beaches include: Hammond Marina, Whihala Beach, Lake Street Beach and launch, Indiana Dunes National Lakeshore West Beach, and Wells Street Beach. The Indiana Dunes National Lakeshore provides boater access at two sites on its beaches in Porter County. Boat-in beaches in LaPorte County include the Indiana Dunes National Lakeshore and Washington Park in Michigan City.<sup>13</sup>

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<sup>7</sup> Botts, CURRENT USES OF INDIANA’S COASTAL RESOURCES, 21 (December 1995).

<sup>8</sup> Northwestern Indiana Regional Planning Commission, Toward a Management Plan for Indiana’s Shoreline on Lake Michigan, ii (January 1993).

<sup>9</sup> Indiana statute IC 14-15-7-3 provides for the adoption of rules for “The safe operation of watercraft upon public water where unusual conditions or hazards exist, such as... watercraft congestion...a beach, boat launch, marina, dam, spillway, or other recreational facility on or adjacent to public water.” The statute also provides that a rule adopted for these purposes “may establish a zone where: (1) the operation of all or some types of watercraft is prohibited; (2) particular activities are restricted or prohibited; or (3) a limitation is placed on the speed at which a watercraft may be operated.”

<sup>10</sup> 310 IAC 2.1-7-2.

<sup>11</sup> 310 IAC 2.1-7-3.

<sup>12</sup> 310 IAC 2.1-7-4.

<sup>13</sup> Personal communication with Stephen Davis, Indiana Department of Natural Resources, Lake Michigan Specialist (January 1996).

The Interagency Task Force on *E. coli* was formed to improve public health protection at public beaches. Even though the efforts made under the Clean Water Act substantially improved water quality and have allowed swimming to be enjoyed in Lake Michigan, there are still occasions when swimming is prohibited due to water pollution. *E. coli* bacteria is commonly used as an indicator that other, harmful, organisms are present. The presence of *E. coli* bacteria at levels suggesting bacterial contamination has caused the beaches on Lake Michigan to be closed periodically to avoid human body contact with the water.<sup>14</sup>

The task force is a collaborative effort involving experts from several federal, state, and local units of government, academia, individuals, and nongovernmental organizations. The task force collaborates to develop a unified strategy to find sources of bacterial contamination and eliminate the need to close beaches. Measures such as the development of standard sampling and analysis procedures have been developed by the task force and are now used by the entities responsible for monitoring public beaches.

DNR Division of Outdoor Recreation received funding through the LMCP and NOAA to further assess recreation along the shoreline through focus groups and user surveys. Five focus group meetings were held in 1996 in northwest Indiana. The five groups encompassed private recreation providers; public recreation providers; user groups; elected officials; and business and industry.

Generally those participating in the focus groups identified a lack of adequate access to the lakeshore. Several common themes were apparent throughout the groups: (1) inadequate information about access to the lakeshore and associated facilities; (2) government inflexibility toward user needs; and (3) need for increased cooperation and coordination of planning efforts between the differing entities along the shoreline.

To gain a clear idea of how people are using the lakeshore, a survey was conducted during July 1997 on weekdays, evenings, weekends, and the Fourth of July holiday. The survey was administered at six sites: Indiana Dunes National Lakeshore West Beach; Portage Public Marina; Whihala Beach County Park; Washington Park Beach; Washington Park Marina; and Hammond Marina.

The majority of the questions centered on what people actually did when they went to the lakeshore to play. Respondents were asked if they had trouble accessing the shoreline, and what additional facilities might be needed. Finally, they were asked what was most important to their recreational needs. The top three activities were: (1) swimming (46%); (2) power boating (40%); and (3) picnicking (18%). Nature observation, hiking or walking, and boat fishing were other activities that more than 10% of respondents indicated doing. When asked if additional facilities were needed at Lake Michigan, 68% responded “no, the current facilities are okay.” Cross referencing each survey site to a particular activity showed respondents thought access for swimming was adequate at all sites except the Hammond Marina. Access for fishing is adequate at all sites except at Indiana Dunes National Lakeshore West Beach, and access for boating is adequate at all sites.

### **Boating and Boating Access to Lake Michigan**

Lake Michigan provides an exceptional opportunity for boating enthusiasts around the country. In 1979, DNR conducted a study to assess public access to the Lake Michigan shoreline and analyze the demand

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<sup>14</sup> Armour, Report Gives State’s Beaches High Marks, POST TRIBUNE (July 12, 1996).

and supply of types of access and recreational activities. The study concluded that the need for additional boat storage and launch facilities was significant; a shortage existed.<sup>15</sup>

In Lake, LaPorte, and Porter Counties, 20,900 boats were registered in 1995. The number of boats registered in these three counties alone in 1995 was 10% of the boats registered in the State of Indiana.<sup>16</sup> There were 229,778 boats registered in Indiana in 1999, an increase from the 214,474 registered in 1998.<sup>17</sup> To provide planning for boating access to Lake Michigan, the Indiana General Assembly created the Lake Michigan Marina Development Commission. The Commission is charged with studying various plans and recommendations proposed for marina development along Lake Michigan and its tributaries. Based on these studies, the Commission must prepare a comprehensive plan, recommend appropriate State and local legislation, and coordinate the implementation of the plan and legislation.<sup>18</sup> By 1999, the Commission had been successful in the development of a marina at Hammond, East Chicago, and Portage. Improvements were initiated for the Whiting shoreline and the Washington Park Marina in Michigan City.

The laws that pertain to marina construction and construction of facilities associated with marinas in Lake Michigan and other navigable waterways are identified in Chapter 5: Existing Management Authorities. Marinas that can service at least five boats and provide engine fuel, docks, boat repair, or boat sales or rental for a fee must supply pumpout facilities.<sup>19</sup> Some conditions for public funding of marinas apply to marinas constructed in Lake County. The state cannot supply funding to a marina located in Lake County unless the marina does each of the following: (1) provides a boat ramp without charge for access by Indiana residents to the waters served by the marina; (2) provides access to marina property without charge for fishing by Indiana residents in the waters served by the marina; (3) dedicates at least eight percent of the total number of parking spaces at the marina for parking vehicles, including boat trailers, by Indiana residents without charge.<sup>20</sup>

Below is a compilation of facilities available at public and private marina facilities located on the Indiana waters of Lake Michigan, Portage Burns Waterway (Burns Ditch) and Trail Creek. The listing was provided courtesy of the Lake Michigan Marina Development Commission.

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<sup>15</sup> Indiana Department of Natural Resources, Public Access to the Indiana Shoreline of Lake Michigan and Selected Tributaries (April 30, 1979).

<sup>16</sup> Correspondence with Maj. Rhinehart, State Boating Law Administrator, Department of Natural Resources (September 1996). The information was derived from the Indiana Bureau of Motor Vehicles.

<sup>17</sup> NMMA. 2000. Boating Registration Statistics. National Marine Manufacturers Association, Chicago. <http://www.nmma.org/facts/>

<sup>18</sup> IC 14-13-3-10.

<sup>19</sup> 312 IAC 6-2 and 312 IAC 6-4.

<sup>20</sup> IC 14-13-8-1.

NAME, ADDRESS PHONE NUMBER LOCATION (** Updated 5/2000)	BOAT SLIPS	LAUNCH LANES	STORAGE Outside [Inside]	FUEL SITE	SEWAGE PUMPOUTS	FISH CLEANING STATIONS
<u>LAKE COUNTY</u> Hammond Marina ** 1111 Calumet Ave. Hammond, IN 46320 219-659-7678	958	5	175	1	2 fixed 2 portable	1
<u>LAKE COUNTY</u> Pastrick Marina ** 3301 Aldis Avenue East Chicago, IN 46312 219-391-8482	294	6	200 [250] Dry Stack	1	2	2
<u>LAKE COUNTY</u> Whihala Beach County Park ** 1561 Park Road Whiting, IN 46394 219-659-4015 219-980-2167 (Lake Co. Parks)	Launch Only	2	0	0	0	0
<u>PORTER COUNTY</u> Doynes Marine, Inc. ** 1340 N. Crisman Road Portage, IN 46368 219-762-7622	53	3	235 [60] Travel Lift	0	1 Portable	0
<u>PORTER COUNTY</u> Duvall's Boat & Trim ** 1375 Burns Drive Portage, IN 46368 219-762-7001	12	0	100	0	0	0
<u>PORTER COUNTY</u> Lefty's Coho Landing ** 6161 Burns Water Way Portage, IN 46368 219-762-7761	87	6	550 [38]	2	1	0
<u>PORTER COUNTY</u> Marquette Yacht Club ** 1218 North Crisman Road Portage, IN 46368 219-762-9961	45	0	0	3	1	0

NAME, ADDRESS PHONE NUMBER LOCATION (** Updated 5/2000)	BOAT SLIPS	LAUNCH LANES	STORAGE Outside [Inside]	FUEL SITE	SEWAGE PUMPOUTS	FISH CLEANING STATIONS
<u>PORTER COUNTY</u> Miller Izaak Walton League ** Miller Chapter IWLA 1250 N. Crisman Road Portage, IN 46368 219-762-9974	160	0	0	1	1	0
<u>PORTER COUNTY</u> Portage Public Marina ** 1200 Marina Way Portage, IN 46368 219-763-6833	135	4	0	0	2	0
<u>PORTER COUNTY</u> South Shore Marina Inc. ** 1700 Marine Street Portage, IN 46368 219-762-2304	60	1	8 Acres	0	1	0
<u>PORTER COUNTY</u> Treasure Chest Marina ** 1305 State Road 249 Portage, IN 46368 219-763-7308	58	0	20 [40]	0	0	0
<u>PORTER COUNTY</u> Westerman's Marina ** 1334 Crisman Road Portage, IN 46368 219-763-1448	50	0	0	0	0	0
<u>LA PORTE COUNTY</u> B&E Marine, Inc. ** Washington Park Michigan City, IN 46360 219-879-8301	80	(2) B&E Use Only	300 [200]	2	2	0
<u>LA PORTE COUNTY</u> Blue Chip Casino ** 2 Easy Street Michigan City, IN 46360 219-879-7711 ext. 5555	18	0	0	0	0	0
<u>LA PORTE COUNTY</u> Marina Park East Inc. ** 15 Marine Drive Michigan City, IN 46360 219-872-4457	22	0	0	0	0	0



NAME, ADDRESS PHONE NUMBER LOCATION (** Updated 5/2000)	BOAT SLIPS	LAUNCH LANES	STORAGE Outside [Inside]	FUEL SITE	SEWAGE PUMPOUTS	FISH CLEANING STATIONS
<u>LA PORTE COUNTY</u> Marina Park South Condo Assoc. ** 15 Marine Drive Michigan City, IN 46360 219-872-4457	40	0	0	0	0	0
<u>LA PORTE COUNTY</u> Marina Park West Condo Assoc. ** 15 Marine Drive Michigan City, IN 46360 219-872-4457	16	0	0	0	0	0
<u>LA PORTE COUNTY</u> Michigan City Scuba Center Inc. ** 510 E. 2 <sup>nd</sup> St. Michigan City, IN 46360 219-874-8979	9	0	0	1	1	0
<u>LA PORTE COUNTY</u> Sprague Point Marina ** 200 E. Street Michigan City, IN 46360 219.□. □.□.□.□□□□□ (Municipal)  (location only, not mailing)	90	0	0	0	0	0
<u>LA PORTE COUNTY</u> Trail Creek Marina ** 700 E. Michigan Blvd. Michigan City, IN 46360 219-879-4300 (Municipal)	63	4	300 [103]	0	1 Fixed	1
<u>LA PORTE COUNTY</u> Washington Park Marina ** 200 Heisman Harbor Rd Michigan City, IN 46360 219-872-1712 (Municipal)	597	4	0	1	2 Fixed 1 Portable	1

#### NOT ON LAKE MICHIGAN

Bass Lake Marina 5095 East Co. Road 210 Knox, IN 46534 219-772-5084	50	1	100 [350]	1 2 types of fuel	0	0
Fay's Marina 908-9 Pine Lake Avenue LaPorte, IN 46350 219-362-1491	60	1	---	0	2	0

NAME, ADDRESS PHONE NUMBER LOCATION (** Updated 5/2000)	BOAT SLIPS	LAUNCH LANES	STORAGE Outside [Inside]	FUEL SITE	SEWAGE PUMPOUTS	FISH CLEANING STATIONS
Huber's Marine, Inc. 1207 Pine Lake Road LaPorte, IN 46350 219-362-2605	No Slips Sell New and Used Boats Full Service	0	Inside Storage Available	0	0	0

Other sites offering access to the Lake via navigable tributaries include:

Lake County  
Lake Street Beach

Porter County  
Town of Porter Beach (non-motorized boats only)

LaPorte County  
Trail Creek Public Fishing Area (SR 35)

These sites are for non-motorized boats only such as canoes or kayaks.

### **Access to Fishing and Hunting Resources**

A survey of fishing access for Lake Michigan and its tributaries completed in 1979 concluded, "the Lake Michigan shoreline offers a most diverse, abundant and consistent fishery resource, as well as a deficiency of access to that resource."<sup>21</sup> The portion of the fishing site survey conducted along the four main tributaries to Lake Michigan evaluated the suitability of the sites for fishing access, fishing quality and fishing pressure. Data collected included the location of the site, stream data, shade cover, bottom types, turbidity and average depth and width. The survey results caused 32 sites to be recommended for priority consideration in respect to development for public access.

The Public Access Program is a long-term commitment by the Division of Fish and Wildlife to provide free access to Indiana waters. Access sites are small areas along public lakes and streams. Sites are usually one to two acres in size and provide anglers/boaters with a boat launching ramp and parking lot. Boat launching at access sites developed by the Division of Fish and Wildlife is provided using federal dollars.

Several sites provide opportunities for fishing along the Indiana Lake Michigan shoreline. Below is a list of access sites along the shoreline for fishing.

#### **Lake County**

- *Southern Energy Company* (formally known as Commonwealth Edison State Line Power Station) provides shore access. Entry for access to the breakwall is off of 103<sup>rd</sup> Street in Chicago or, from Indiana through the Hammond Port Authorities overflow parking lot.

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<sup>21</sup> Indiana Department of Natural Resources, Public Access to the Indiana Shoreline of Lake Michigan and Selected Tributaries, 59 (April 30, 1979).

- *Hammond Marina* provides a fishing pier that is handicap accessible. Entry for access to the marina is from Casino Center Drive west in Hammond, Indiana. Casino Center Drive can be reached from Indianapolis Boulevard.
- *Whihala Beach County Park* provides a fishing pier that is handicap accessible. Entry for access to the park is from Calumet Avenue in Hammond, Indiana.
- *Whiting Park* provides a retractable fishing pier. Entry to the park from the west is from Indianapolis Boulevard via 117<sup>th</sup> Street in Whiting Indiana. Entry to the park from the east is via 119<sup>th</sup> Street in Whiting, Indiana.
- *Pastrick Marina* provides a fishing pier that is handicap accessible. Entry to the marina is from Cline Avenue via Inland Plan 2 exit in East Chicago, Indiana.
- *NIPSCO Dean Mitchell Generating Station* provides fishing from the shore and the plant breakwall. The site can be accessed from the northern end of Clark Road in Gary, Indiana. Parking is available at the guardhouse.

#### Porter County

- *Burns Small Boat Harbor* breakwater: entry to the breakwater via the walking agreement between the Indiana Dunes National Lakeshore and Ogden Dunes. Parking is available at the Indiana Dunes National Lakeshore West Beach Unit.
- *Burns International Harbor* DNR Public Access Site provides handicap accessible shore access. Access to Burns International Harbor is off of U.S. 12 via the Port of Indiana exit.

#### LaPorte County

- *NIPSCO Michigan City Generating Station* provides shore access. The access is located at the end of Wabash Street in Michigan City, Indiana. Parking is available at the DNR building.
- The *DNR Building* provides shore access. Access is located west of the DNR building on 100 West Water Street in Michigan City, Indiana.
- *Washington Park Marina* provides a fishing pier. The site can be accessed from Pine Street and Lakeshore Drive in Michigan City.

DNR is authorized to provide for public fishing from the shore of the Burns International Harbor (also called the Port of Indiana).<sup>22</sup> Pursuant to this authority, DNR Division of Fish and Wildlife maintains a public fishing facility at the Harbor. “However, if the site of any public fishing area established under this section is subsequently leased to others for agricultural, industrial, or commercial purposes,” the Indiana Port Commission “may limit or halt public fishing in that area.” The Indiana Port Commission has, by rule, prohibited boat launching from the port area.<sup>23</sup>

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<sup>22</sup> IC 8-10-1-7.5.

<sup>23</sup> 130 IAC 1-3-17(b). Burns International Harbor is operated by the Indiana Port Commission, a “body both corporate and politic in the state of Indiana.” the purposes of the Indiana Port Commission are to promote the “agricultural, industrial, and commercial development of the state.” IC 8- 10-14 and IC 8-10-1-3. With the Harbor, the Port Commission provides “a traffic

There are also several public fishing access sites located in the Coastal Program Area.

COUNTY	PUBLIC FISHING ACCESS SITE	BODY OF WATER
Lake	Lake George	Lake George and Deep River
LaPorte	Creek Ridge County Park (400 N)	Trail Creek
LaPorte	Trail Creek Forks (south side of US 20 bridge)	Trail Creek
LaPorte	Robert Peo Public Access (US 12)	Trail Creek
LaPorte	Trail Creek Public Fish Area (SR 35)	Trail Creek
LaPorte	Red Mill County Park	Trail Creek
Porter	Chustak State Fish Area (west of Hwy 49 on 600 N)	Salt Creek
Porter	Long Lake (Long Lake Drive)	Long Lake
Porter	Meyers	Salt Creek
Porter	Portage Public Marina	Portage Burns Waterway

The DNR Division of Fish and Wildlife also maintains public wetland conservation areas that can be used for fishing, trapping, or hunting. The coastal area has three wetland conservation areas: Beaver Dam in Lake County is 17.6 acres and allows trapping and fishing but no hunting is allowed. Langeluttig in Porter County is 10.38 acres and allows fishing. Galena in LaPorte County is 165 acres and provides hunting for squirrel, turkey, deer, and waterfowl.

### **Access to the State Park and Other Natural Areas**

Several areas in northwest Indiana have been set aside for the public to enjoy. The Indiana Dunes State Park was established by state statute in 1925. The park today encompasses 2,182 acres and 3.25 miles of shoreline. Indiana Dunes State Park provides opportunities for swimming, hiking, camping, and nature observation. Within the Indiana Dunes State Park boundaries is a state dedicated nature preserve that provides access to areas of high natural quality in the park. Other dedicated nature preserves in the coastal area that provide access to resources in the coastal area are identified below.

The Indiana Dunes National Lakeshore also provides significant access to natural areas. The Indiana Dunes National Lakeshore was established by an act of Congress in 1966, “to preserve for the educational, inspirational and recreational use of the public certain portions of the Indiana Dunes and other areas of scenic, scientific, and historic interest and recreational value of the State of Indiana . . .” Today the National Lakeshore includes approximately 15,000 acres and 15 miles of shoreline.<sup>24</sup> The location of the state and federal park as well as several parks managed by local governments are located on maps included at the end of this section.

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exchange point . . . giving particular attention to the benefits which may accrue to the state and its citizens by the opening of the St. Lawrence Seaway.” IC 8-10-1-5(a)(6).

<sup>24</sup> National Park Service, Draft Indiana Dunes National Lakeshore: Land Protection Plan (June 1995).

Dedicated Nature Preserves in Northwest Indiana

<b>Lake County</b>	<b>Primary Manager</b>
Biesecker Prairie	DNR Nature Preserves
Clark and Pine (limited access)	DNR Nature Preserves
Cressmoor Prairie	Shirley Heinze Fund
Gibson Woods	Lake County Parks & Recreation Department
Hoosier Prairie	DNR Nature Preserves
Liverpool	DNR Nature Preserves
McCloskey's Burr Oak Savanna	DNR Nature Preserves
Seidner Dune and Swale	Shirley Heinze Fund
Tolleston Ridges	Lake County Parks & Recreation Department
<b>LaPorte County</b>	<b>Primary Manager</b>
Barker Woods	The Nature Conservancy
Wintergreen Woods	LaPorte County Conservation Trust
Little Calumet Headwaters	LaPorte County Parks Department
Springfield Fen	DNR Nature Preserves
<b>Porter County</b>	<b>Primary Manager</b>
Dunes	DNR State Park
Moraine	DNR Nature Preserves

DNR and the Recreational Development Commission conduct planning for the addition of public parks and nature preserves. DNR is authorized to make available to the public, parks and other suitable places for recreation, conservation, and management of natural and cultural resources.<sup>25</sup> The dedication and development of "nature preserves"<sup>26</sup> is overseen by the Division of Nature Preserves of DNR, with notable participation by nongovernmental organizations. The Natural Resources Foundation, which enjoys not-for-profit status with the US Internal Revenue Service, was formed to address the future of

<sup>25</sup> IC 14-19-1-2.

<sup>26</sup> IC 14-31-1.

Indiana's natural resources. Established July 1, 1990 by the Indiana General Assembly, the Foundation is designed to accept money or donations of property to further the state's conservation goals.<sup>27</sup>

Federal, state, and local governments have legal authority to acquire land along the shoreline in Lake Michigan as described in Chapter 5: Existing Management Authorities. At the state level, DNR is authorized to acquire land for parks, preserves, scenic places, and historic places.<sup>28</sup> The General Park and Recreation Law provides broad discretion to local park boards to acquire or enter agreements for the operation of parks.<sup>29</sup>

Natural resource areas can be donated to park boards and similar entities through the "Uniform Conservation Easement Act."<sup>30</sup> The act authorizes the voluntary transfer of a "conservation easement" for a variety of purposes: "(1) retaining or protecting natural, scenic, or open space values of real property; (2) assuring its availability for agricultural, forest, recreational, or open-space use; (3) protecting natural resources; (4) maintaining or enhancing air or water quality; or (5) preserving the historical, architectural, archaeological, or cultural aspects of real property."<sup>31</sup> A conservation easement may be held by a government body or by a qualified charitable institution.

The Recreational Development Commission is established by state statute to provide for the general health and welfare of Indiana citizens by the acquisition, construction, improvement, and operation of public recreational facilities. The Commission facilitates and supports the development and use of the parks in the state.<sup>32</sup>

### **Access to Trails**

The National Park Service, the US Forest Service, DNR, and city and county park and recreation agencies offer several types of trails for recreation. Trails are available for horseback riding, walking, and bicycling. In addition, DNR in cooperation with the Indiana Snowmobile Association and local snowmobile clubs offer five snowmobile trails in northern Indiana. Four of the five snowmobile trails are on private lands leased by the state between December and March. The fifth trail is at Salamonie Reservoir, a DNR property. There are also 16 miles of canoe trails in northwest Indiana. Six miles of Deep River in Lake and Porter Counties are "canoe trails." Also, ten miles of the east fork of the Little Calumet River in Porter County are designated canoe trails.

The development of trails to link recreation and natural areas such as the National Lakeshore and Marquette Park is primarily a local effort. DNR Division of Outdoor Recreation often provides technical assistance to local entities that pursue trail development. The Northwestern Indiana Regional Planning Commission (NIRPC) also assists with trail planning and development in northwest Indiana. NIRPC has printed a map outlining the trail opportunities and published an accompanying report in 1990 titled: *Trail Opportunity Plan for Northwestern Indiana*. The report was prepared in cooperation with DNR and the US Department of the Interior. The report identifies trail opportunities along abandoned corridors and other rights of way in northwest Indiana. NIRPC also developed a "Regional Bikeways Plan" which was adopted in 1994 and is being implemented largely with Transportation Enhancement funds and local matching funds.<sup>33</sup>

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<sup>27</sup> IC 14-12.

<sup>28</sup> IC 14-19-1-1(4).

<sup>29</sup> IC 36-10-3.

<sup>30</sup> IC 32-5-2.6.

<sup>31</sup> IC 32-5-2.6-1.

<sup>32</sup> IC 14-14-1-1.

<sup>33</sup> Correspondence from Steve Strains, Northwest Indiana Regional Planning Commission (December 27, 1995).

The Indiana General Assembly established the Transportation Corridor Planning Board in 1995.<sup>34</sup> The board is charged with reviewing the list of existing rights-of-way that might be abandoned during the following year as prepared by INDOT; approve or disapprove the priorities for potential future uses of rights-of-way consistent with the INDOT comprehensive transportation plan and DNR trail system plan; review criteria for project selection under the program; and review procedures for public participation under the program.<sup>35</sup> INDOT “shall determine whether the state should acquire a railroad’s interest in a right-of-way that is proposed to be abandoned.” INDOT must recommend acquisitions to the board, which is authorized to determine whether the state should acquire the rights-of-way for preservation of “(1) a present or future rail line; (2) a transportation corridor; (3) communication corridor; (4) recreational trail; (5) a utility corridor; or (6) any combination of purposes described in subdivisions (1) through (5).”<sup>36</sup> Procedures for the establishment of a recreation trail are set forth that ensure public participation.<sup>37</sup> The statute also establishes a “Recreational Trails Program” through which eligible trail projects may be funded subject to approval of the board.<sup>38</sup>

### **Access to Coastal Historical or Cultural Areas**

Northwest Indiana today offers glimpses into its unique history. For example, ancient shipwrecks represent an important cultural and historical resource for Indiana and the Lake Michigan coastal area. Based on archival and documentary research, the 225 square miles of lakebed controlled by Indiana are thought to contain as many as 50 shipwrecks for vessels lost since the 1830’s. The largest number of prospective shipwrecks in the Indiana waters of Lake Michigan date from 1851 through 1900, while the greatest number of known shipwrecks is for the period between 1880 and 1920. The 36 wrecks of this period, 13 of which sank between 1871 and 1880, represent over 70% of the total prospective inventory. A broad spectrum of vessel types is included in the inventory. Among them are bulk freighters (lake types, self-loaders, and cannallers), passenger ships (lake types and sidewheelers), package freighters, and car ferries. Serious efforts to inventory shipwrecks within Indiana waters of Lake Michigan did not begin until the mid-1980s. By 1989, 14 vessels had been located and eight inventoried. These efforts did not locate shipwreck data for the 17<sup>th</sup> or 18<sup>th</sup> centuries, the earliest found being schooners from the 1830s. However, early historical records indicate that the potential exists for locating and identifying small trading vessels. Additional data is needed to permit the interpretation of this resource type.<sup>39</sup>

The successes of growth and development are also important pieces of the region’s history. The history of the area’s settlement is evident in some of the elaborate buildings with architectural styles left standing from the early twentieth century. The lure of Indiana’s sandy shores also brought many wealthy people from Chicago who built grand summer vacation homes. Access to large quantities of water drew major industries to the shoreline. Tributaries used by Native Americans and early French-Canadian fur traders included ports for commerce on the Great Lakes and eventually international shipping. Shipwrecks, lighthouses, architectural designs of homes, churches, barns, and towns, urban and industrial buildings, are a few of the resources that still allow residents and visitors to experience a different time or culture.<sup>40</sup>

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<sup>34</sup> IC 8-4.5-2.

<sup>35</sup> IC 8-4.5-3-2.

<sup>36</sup> IC 8-4.5-4-1 and IC 8-4.5-4-2.

<sup>37</sup> IC 8-4.5-6-1.

<sup>38</sup> IC 8-4.5-5-1.

<sup>39</sup> *Id.*

<sup>40</sup> Porter County Interim Report: Indiana Historic Sites and Structures Inventory (July 1991) and LaPorte County Interim Report: Indiana Historic Sites and Structures Inventory (March 1989).

DNR Division of Historic Preservation and Archaeology implements a program to preserve the heritage of Indiana. The Division inventories sites and structures, reviews sites for protection, provides educational opportunities about Indiana historic resources, and administers grants and incentives for preserving these resources. The inventory is a catalog of all Indiana buildings, sites, structures, and objects made before 1950.<sup>41</sup> A preliminary inventory by DNR Division of Historic Preservation and Archaeology of shipwrecks estimates there are as many as 50 shipwreck sites in the Indiana waters of Lake Michigan. The earliest of these vessels dates from 1857.

Sites can be nominated for the National Register of Historic Places and the Indiana Register of Historic Sites and Structures. Applications for placement on both of these lists are reviewed by DNR and ultimately reviewed for approval by the Indiana Historic Preservation Review Board.<sup>42</sup> To be eligible sites must be at least 50 years old and significant to our past. In addition, eligible properties should look much as they did when they acquired their significance.

The Indiana Division of Historic Preservation and Archaeology lists the following historic sites from the coastal region on the National Register.

<b>Lake County</b>	<b>LaPorte County</b>	<b>Porter County</b>
Morse Dell Plain House and Garden, 1923, 1926 Hammond	John H. Barker Mansion, 1905 Michigan City	Beverly Shores South Shore Railroad Station, 1929
Ralph Waldo Emerson School, 1908 Gary	Michigan City East Pierhead Light Tower and Elevated Walk, 1904	George Brown Mansion, 1885 Chesterton
Gary Bathing Beach Aquatorium, 1921	Michigan City Lighthouse, 1858	Norris and Harriett Coombs Lustron House, 1950 Chesterton
Gary City Center Historic District, 1906-1944	Muskegon Shipwreck Site 1872-1911	Heritage Hall, 1875 Valparaiso
Gary Public Schools Memorial Auditorium, 1927	Washington Park, 1891, 1933-1941 Michigan City	Imre and Maria Horner House, 1949 Beverly Shores
Gary Land Company Building, 1906	Michigan City Post Office, 1909-1910, Michigan City	Immanuel Lutheran Church, 1891 Valparaiso
Hobart Carnegie Library, 1915		Dr. David J. Loring Residence and Clinic, 1906 Valparaiso
Hoosier Theater Building, 1924 Whiting		New York Central Railroad Passenger Depot, 1914 Chesterton
Knights of Columbus Building, 1925 Gary		Porter County Jail and Sheriff's House c. 1860, c. 1871
Lake County Courthouse, 1878 Crown Point		Porter County Memorial Hall, 1893 Valparaiso
Lake County Sheriff's House and Jail, 1882 Crown Point		David Garland Rose House, c. 1860 Valparaiso

<sup>41</sup>Indiana Department of Natural Resources, *Indiana Cultural Resources* (1995).

<sup>42</sup>16 USC 460d, 4601-4 to 4601-11.



<b>Lake County</b>	<b>LaPorte County</b>	<b>Porter County</b>
Marktown Historic District, 1888-1926 East Chicago		Valparaiso Downtown Commercial District, c. 1870-1930
Miller Town Hall, 1911 Gary		Weller House, c. 1870 Chesterton
Pennsylvania Railroad Station, 1910 Hobart		Porter City Hall, 1913, Porter
State Bank of Hammond Building, 1927		Nike Missile Site C47, c. 1955, Portage area
Stallbohm Barn- Kaske House, c. 1890, c. 1920 Munster		
West 5 <sup>th</sup> Avenue Apartments Historic District, 1922-1928 Gary		
Whiting Memorial Community House, 1923		
John Wood Old Mill, 1838 Merrillville		
William Whitaker Landscape and House, Crown Point		
First Unitarian Church of Hobart, 1875-1876, Hobart		
State Street Commercial Historic District, Hammond		

The Division of Historic Preservation and Archaeology also maintains the following list of sites in the coastal region for the Indiana State Register:

**Lake County:**

- William Barringer Brown House, 1897 Crown Point
- William Whitaker Landscape and House, Crown Point
- First Unitarian Church of Hobart, 1875-1876, Hobart
- State Street Commercial Historic District, Hammond

**LaPorte County**

- Haskell and Barker Car and Manufacturing Company, C. 1900 Michigan City
- Michigan City Post Office, 1909-1910, Michigan City

**Porter County**

- Clarence H. Martin House, 1903 Valparaiso
- Nike Missile Site C-47, c. 1955 Portage area
- Josephus Wolf Home, 1875 Valparaiso

## **Additional Planning Procedures**

### **Areas of Coastal Significance**

The LMCP uses the process of nominating and designating Areas of Particular Concern (APC) and Areas for Preservation and Restoration (APR) as a means to assess public beaches and other public areas for the improvement of access or protection. As described in Chapter 8: Areas of Coastal Significance, highest priority uses for areas of substantial recreational value are those that encourage access by the public and provide a quality recreational experience. Providing public access is also a priority use or a component of planning for several types of APC. Chapter 5: Existing Management Authorities discusses Indiana's laws that relate to recreational resources.

Through the Coastal Grants Program, the LMCP will form partnerships with local organizations to assess, protect, or restore areas identified as APC or APR. In addition, the annual planning process to identify priorities for the Coastal Grants Program will identify recreation needs.

### **Statewide Comprehensive Outdoor Recreation Plan**

As a result of an ongoing process of evaluating Indiana's outdoor recreation, DNR Division of Outdoor Recreation produces the Statewide Comprehensive Outdoor Recreation Plan (SCORP) every five years.<sup>43</sup> The entire state is examined to document its resources, needs, and issues for the SCORP. A citizen group, known as the Plan Advisory Committee, assists in document preparation in order to help coordinate DNR activities with the interests of other state agencies and local governments. The document outlines issues local citizens would like to see addressed and recommended alternatives for action. This document is submitted to the National Park Service every five years to remain eligible for the Land and Water Conservation Fund<sup>44</sup> monies which are passed through to qualified local park boards and state projects.<sup>45</sup>

Part of the SCORP is an inventory of existing recreation sites and facilities. Each site is visited by DNR staff and located using global positioning system technology for entering into the DNR geographic information system (GIS) database. Also, comprehensive information about the site, such as the managing agency, type of site, kinds and numbers of facilities and sports allowed, water access, and overnight accommodations, is collected and entered into the same GIS database.

### **Americans with Disabilities Act Planning**

In order to comply with the Americans with Disabilities Act of 1990, state agencies have developed written policies and strategies following a public participation process. DNR describes its policies and strategies in the Indiana Department of Natural Resources Americans with Disabilities Act Transition Plan written in December 1993.

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<sup>43</sup> IC 14-14-2-1.

<sup>44</sup> 16 USC 4601-5.

<sup>45</sup> Indiana Department of Natural Resources, Statewide Comprehensive Outdoor Recreation Plan (1994). By rule, the SCORP is also used to help develop priorities for the Hometown Indiana Grant Program and the Recreational Trails Program. 312 IAC 26-2-2.

## **Financial and Technical Assistance Programs**

The Land and Water Conservation Fund (LWCF) is a federal grant program administered at the state level. DNR Division of Outdoor Recreation oversees the LWCF in Indiana. The program provides 50% reimbursement grants to assist park and recreation boards and state projects in acquiring and developing outdoor recreation areas for public use.

The Hometown Indiana Grant Program is a state grant program administered by the DNR Division of Outdoor Recreation. Hometown Indiana provides a 50% matching grant for local parks and recreation, local historic preservation, and urban forestry. The Division also administers the Recreational Trails Program, which is part of the federal Transportation Equity Act for the 21<sup>st</sup> Century. The Recreational Trails Program can reimburse up to 80% of the cost of qualified projects for the development of multi-use trails, stream and river access sites, and other trail support facilities.

A voluntary fish and wildlife land acquisition stamp was created in 1995. Each year DNR designs and offers a new stamp for sale at a price of five dollars. Money collected from the sale is deposited in the Indiana Heritage Trust Fund with amounts to be used exclusively for the purchase of fish and wildlife properties.<sup>46</sup>

The Indiana General Assembly created the Indiana Heritage Trust in 1992.<sup>47</sup> The Trust is funded through the sale of Environmental License Plates. The Trust also seeks contributions from corporations, foundations, and individuals. The Trust uses the money to buy land from willing sellers for new and existing state parks, state forests, nature preserves, trails, fish and wildlife areas, and other areas.

The Indiana General Assembly established the Indiana Natural Heritage Protection Campaign in 1984.<sup>48</sup> The campaign is a cooperative fund raising effort designed to generate \$10 million for the acquisition and care of areas that qualify for the state nature preserve system. Each dollar contributed by citizens, businesses, and philanthropic organizations are matched with an equal appropriation from the state legislature. Campaign purchases may be made only from willing sellers.

The Transportation Enhancement Activities program is an 80% matching assistance program from the Federal Highway Administration administered by INDOT. The federal money, a result of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), is available to government agencies for facilities that will enhance the transportation system. The program includes ten categories of activities eligible for funds, some of which are trail related.

The Hometown Indiana Grant Program is a 50% matching assistance program for local historic preservation, community forestry, and local parks.<sup>49</sup> Standards for applications for community park or recreation grants are set by rule.<sup>50</sup>

Preservation and archaeology projects by local organization and communities can receive state funding. Non-profit organizations and local governments may apply to the Division of Historic Preservation and Archaeology for matching grants to carry out projects that relate to Indiana's historic preservation goals. The grant is part of Indiana's annual share of the federal Congressional appropriation for historic

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<sup>46</sup> IC 14-12-2-35.

<sup>47</sup> IC 14-12-2.

<sup>48</sup> IC 14-31-2.

<sup>49</sup> IC 14-12-3.

<sup>50</sup> 312 IAC 26-3.

preservation. In addition, 20% of allocations to the Hometown Indiana Grant Program are eligible to be used by municipal corporations for historic preservation.<sup>51</sup>

Owners of certain Indiana historic property have both state and federal tax credit programs available to assist them with the cost of rehabilitation projects. The Federal Tax Reform Act of 1986 provides a 20% federal income tax credit on the cost of rehabilitating a historic building. The Indiana Historic Rehabilitation Tax Credit Program provides a 20% state income tax credit on the cost of rehabilitating a historic building.

The Certified Local Government Program helps preservation efforts of Indiana cities and towns in coordination with their development plans. Certified programs have a competitive advantage in applying for grants from DNR Division of Historic Preservation and Archaeology. The certification also allows participation in the nomination process for the National Register of Historic Places and eligibility for funding for historic preservation commission staff.

## **Assessment of Public Beaches and Other Public Coastal Areas**

### **Analysis of the Supply of Existing Facilities and Properties**

In 2000 the LMCP contracted with the Eppley Institute for Parks & Public Lands at Indiana University to examine recreation in the Lake Michigan watershed. The following analysis of recreation supply and facilities is taken from their final report.

#### Lakeshore Access

The ability to walk, stroll, sit and view coastlines is one of the fundamental recreational needs identified for the public. On peak summer days, the National Lakeshore and State Park often close their gates early each day as they cannot accommodate visitor demand while not far away, municipal coastal access beaches and parks are underutilized. An underlying theme in exploring lake access appears to be the lack of a comprehensive and visible access signage program, and improved access and right-of-way involving private property. It should be noted that intense pressure to develop improved recreation access along the lakeshore competes with private property rights issues when discussions of access through residential areas or streets occurs. Adequate access to the Lake Michigan shoreline could be made available year round if vehicle access and parking or other transportation alternatives were adequate to handle the demand. In addition, lakeshore access for persons with disabilities is apparently planned for but not developed at the time of the report.

#### Fishing

There are many methods of fishing in the watershed such as pier fishing, shore fishing, stream fishing, surfcasting, trolling, deep-sea fishing, and charter boat fishing. All of these forms of recreational fishing represent one of the most important coastal activities in Lake Michigan; especially in light of the fact that Indiana has one of the best trout and salmon fisheries on the Great Lakes. Access to the fishery at boat ramps or public access streams is limited. Signage to the public access on streams is provided in some cases but again, access suffers from a lack of a comprehensive signage program. Fishing pressure along streams with public access is fairly high and the addition of access sites for fishing competes with high property values. Additional issues of concern in relation to improved fishing access include provision of

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<sup>51</sup> 312 IAC 26-4.

adequate fish cleaning, restroom and solid waste facilities in high-use areas, and providing better access to streams and shore-based facilities such as piers.

### Hunting

Hunting access is limited by size and location of habitat and open space. The increased urban development in the watershed is estimated to convert 2% of available private farmland each year that traditionally had supported hunting activities, to a suburban or urban land use. Hunting areas in proximity to the watershed are important in providing hunting access. Some local groups, such as Ducks Unlimited and the Lake County Fish and Game Protection Association have and continue to help provide resources for hunting through restoration, conservation, and protection of habitat areas suitable for hunting. The DNR is fully committed to a joint venture project in the Grand Kankakee Marsh Restoration Project that is near the watershed.

### Boating

With over 24 miles of lakeshore committed to public park, the remaining 21 miles of existing marinas, industrial, and residential uses limits additional marina development opportunities. In addition, tributaries to Lake Michigan are fairly well developed with, or planned to be developed with, marinas. These facts combined with high property values and costs to convert industrial lands, leads to the conclusion that additional marina development will be expensive and difficult to accomplish. The Lake Michigan Marina Development Commission has made plans to address some of the demand through improvements to existing facilities and the planned Gary and Whiting marinas. Boating access on Lake Michigan is related to marina facilities, marina launch ramps, and support services such as fueling and pump out stations.

Issues of concern relating to boating access include: 1) development of adequate boating marina development using sensitive design principles and high quality construction techniques that allow for widespread community acceptance, accurate feasibility study and professional boating facility management for maintenance, safety and regulations, 2) the effects of boating on the overall water quality in Lake Michigan, 3) need for a 24-hour launching facility, 4) boating impact on public and private lakes other than lake Michigan, 5) feasibility of canoe and kayak rental and access development along the shoreline and on appropriate streams and rivers, 6) impact of personal watercraft use on recreation quality, safety, and overall water quality, and 7) an estimate of overall boating demand.

### Interpretive/Education Facilities

Demand for interpretive and educational programs in the watershed exceeds supply at some locations. The Indiana Dunes State Park and National Lakeshore programs are effective, fully utilized by visitors in summer and early fall, and during the week with school groups. These use patterns limit the amount of staff time available to expand services in this area. Use patterns in other parts of the watershed shows that programs are not as well used but are not a priority. Volunteer, nonprofit organizations appear to be as successful at providing interpretive and educational opportunities as their resources allow. There are some immediate opportunities for improving interpretive and education program supply through 1) birding activities, 2) eco-tourism planning, and 3) maritime heritage. Birding activities are a significant feature of tourism and marketing in the watershed. Birding guides, bird blinds, and interpretive programs exist. However little is known about the demand for birding activities. Most tourism agencies in the watershed indicated an interest in developing ecotourism. However, planning has not occurred for how to address ecotourism concepts with improved regional coordination. Review of opportunities suggests that preservation of remaining wetlands and overall health of the dunes are important. Interpretation of Indiana's maritime heritage appears to be under represented.

### Trail Opportunities

The assessment of trail opportunities for the Lake Michigan watershed resulted in the identification of existing opportunities to develop a regional greenway. A regional greenway can link communities to existing parks, trails and open spaces, protect natural and cultural resources, improve the quality of life throughout the watershed, and reduce automobile use. NIRPC has taken a lead to create regional priority trail study areas: Grand Calumet River/Marquette Trail Corridor, Little Calumet River Trail Corridor, Oak-Savannah/Prairie-Duneland Trail Corridor, and Conrail Trail Corridor. These regional trail greenways can link to local trails such as the Erie-Lackawanna Trail in Hammond, Munster trails, and others. Issues of concern for greenway opportunities include private property rights, the acquisition of rail corridor rights of way, protection of streams and flood plains, consideration of using utility corridors and connection of the regional greenway trail system to recreation activity centers in the region.

### Underwater Resources-Shipwrecks

The underwater resources of Indiana's territorial waters are important assets that have not been actively managed. When compared to neighboring Great Lakes states, Indiana has the smallest territorial waters and thus perhaps the lowest number of historic shipwrecks. Nevertheless, this does not diminish the significance and value of Indiana shipwrecks for both their historic and recreational value. Previous investigations have identified potential for 50 historic vessels within state waters. Indiana currently has twenty-eight full time dive shops with eight of those indicating that they promote or conduct dive charters to Indiana Lake Michigan waters. The Muskegon and J.D. Marshall are two selected Indiana historic shipwrecks that are recommended by Indiana University for increased recognition. Evaluation for the selection included: historical significance, recreational value, remaining significant features on the wreck, boat access, diving environment, diver safety issues, current demand on the resource, potential for park development, proximity to state or federal property, and nearby land sites for interpretive materials.

### Trends and Needs

The report by the Eppley Institute also identified recreation trends for Indiana's coastal region. These include increasing demand for walking, hiking, jogging, and other trail related activities, close to home outdoor camping, access to fishing, boating recreation, and nature observation activities. In their interviews with local stakeholders, the following trends were identified as priorities:

- Regional trails and greenways
- Boating demand
- Waterfront safety
- Personal watercraft use and safety
- Protection of endangered species and habitat while allowing recreational use
- Water quality
- Tourism and casino development compatibility

Review of these interviews revealed that the common trend is that water quality issues are rapidly reaching a critical stage where they will affect recreational use of the watershed. Issues relating to pollution, sedimentation, wastewater management, invasive species, wetland preservation, and protection were important.

## Chapter 10: Shoreline Erosion and Mitigation Planning

Indiana's Lake Michigan shoreline continually changes; it is dynamic by nature. Human alterations along the coast exemplify the dynamic characteristics of the shore. Protecting the shore is a concern as wind and waves continue to try to shape the coastline. Structures built along the coast have succumbed to Lake Michigan storms and no longer exist.

To reduce the risks of property loss to Lake Michigan, and lessen the interference in coastal processes by man-made structures, management techniques have been developed by the state. This chapter outlines the techniques and how they are used to manage erosion along the shore. A detailed, technical description of the coastal processes affecting Indiana's Lake Michigan shoreline can also be found in Appendix G.

The CZMA requires a state participating in the federal coastal program to implement a "planning process for assessing the effects of, and studying and evaluating ways to control, or lessen the impact of, shoreline erosion, and to restore areas adversely affected by such erosion."<sup>1</sup> The following chapter describes Indiana's planning processes. First, a brief description of the conditions along the shoreline is provided. Second, the chapter explains Indiana's methods to: (1) assess the effects of shoreline erosion; (2) study and evaluate ways to control or lessen the impact of shoreline erosion; and, (3) restore areas adversely affected by such erosion. The final section of the chapter references legal mechanisms and other programs used to manage the effects of erosion. Chapter 5: Existing Management Authorities, particularly the Coastal Dynamics and Water Quantity sections, provides a more detailed explanation of the legal mechanisms Indiana uses to manage erosion.

### Conditions Along the Indiana Coast

The 45 miles of Indiana's coast supports a wide variety of land uses. Approximately one-third of the shoreline is industrial, one-third of the shoreline is residential, and one-third of the shoreline is public property. These land uses have shaped the shoreline landward, as Lake Michigan continues to shape the coast from the water. The condition of this line, where water meets land, varies along the entire length of the shore.

Depending on lake levels, wide beaches or narrow beaches can stretch along portions of the coast. High bluffs or shifting dunes occupy some lengths of shore. Rock revetment, steel sheet pile, or bulkheads have been constructed to protect other areas from erosion. Breakwaters reach out into the lake from the coast where additional protection from waves is desired.

Water levels of Lake Michigan have fluctuated since the Great Lakes were formed by glacial activity about 12,000 years ago. In addition to the natural process of the fluctuation of lake levels is the natural process of the transport of sediment, or sand, along the coastline. Sand is transported by waves and currents, which are driven by wind.<sup>2</sup> Without storms, there would be no waves or currents to move large quantities of sand along the beach and lake bottom. The intensity of storms on Lake Michigan plays a primary role in determining the amount of erosion that occurs in any given year.<sup>3</sup> Lake levels influence where erosion may occur. Lake level affects whether waves attack low on the beach face when lake

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<sup>1</sup> 16 USC 1455 (d)(2)(I).

<sup>2</sup> Wood, Hoover, Stockberger, Zhang, Coastal Situation Report for the State of Indiana, 29 (June 1988).

<sup>3</sup> U.S. Army Corps of Engineers, North Central Division, Lake Superior and Ontario Regulation, Monthly Bulletin of Lake Levels for the Great Lakes, 2 (December 1994). A significant storm raked Indiana's Lake Michigan shoreline in March 1998. See Early March Storms Hit Lake Michigan Shoreline from the Summer 1998 issue of Shorelines.

levels are low, or waves attack high on the back beach at the base of the erodible dune-bluff, when lake levels are high.

The ACOE completed a study in 1978 entitled *Report on Indiana Shoreline Erosion*. The report details areas along the shoreline in Lake, Porter, and LaPorte Counties where erosion damage occurred and projects future erosion damages. Areas that were identified as having a non-critical recession rate of less than one-foot per year included Marquette Park, Miller Beach, and Ogden Dunes. Areas where erosion was occurring at a rate greater than three feet per year included Indiana Dunes National Lakeshore, Beverly Shores, Indiana Dunes State Park, Porter, and Dune Acres. Recession rates at Long Beach and Duneland Beach are not identified in the ACOE's report. The areas with recession rates of greater than three feet per year extended along 13 miles of Indiana's 45-mile shore. However, these 13 miles of shoreline were found to be designated natural areas within the State Park and National Park where development is not likely to occur, or areas that already were protected by structures. The ACOE concluded in the report that of Indiana's 45 miles of shoreline, only 2.25 miles were subject to critical erosion.<sup>4</sup>

In 1988, the Purdue University Great Lakes Coastal Research Laboratory evaluated the Indiana coast and provided an updated erosion assessment. In 1978, the Corps found 13 miles of Indiana coast to have a recession rate greater than three feet per year, but in 1988 this classification included only 9.5 miles due to changes in coastal dynamics caused by man-made structures. Still much of the shoreline with this classification was found not to experience critical erosion. Of the 9.5 miles, approximately 6.0 miles were located in the State Park and National Park, and 3.25 miles were well protected by structures. Only 0.25 mile of shoreline with a recession rate greater than three feet per year was determined to be unprotected.

Indiana's 45 miles of shoreline can be divided into six distinct segments or reaches, separated, in most cases, by the presence of a man-made coastal structure.<sup>5</sup> The reaches, moving from east to west along the coast, are identified as follows:

Reach 6: Indiana-Michigan border to the Michigan City Harbor.

Reach 1: Michigan City Harbor to boundary between the Town of Beverly Shores and the Indiana Dunes State Park at Kemil Road.

Reach 2: Kemil Road to the east side of the Burns International Harbor complex.

Reach 3: Burns International Harbor to the USX- Gary Harbor complex.

Reach 4: Buffington Harbor to the Indiana Harbor and Ship Canal complex.

Reach 5: Indiana Harbor and Ship Canal complex to the Indiana-Illinois State line.

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<sup>4</sup> Indiana Department of Natural Resources, *Shoreline Erosion Along the Indiana Coast of Lake Michigan*, Technical Report No. 307, 17 (April 30, 1979).

<sup>5</sup> The reaches were identified in a report completed by the U.S. Army Corps of Engineers in 1982. Reaches 1-5 were identified by the Corps in *Indiana Shoreline Erosion*, final Feasibility Report and Environmental Impact Statement. Reach 6 (CZM) was not analyzed by the Corps, because it was updrift of a major sediment trap, but it was added as "Reach A" in the 1981 report by Purdue University.



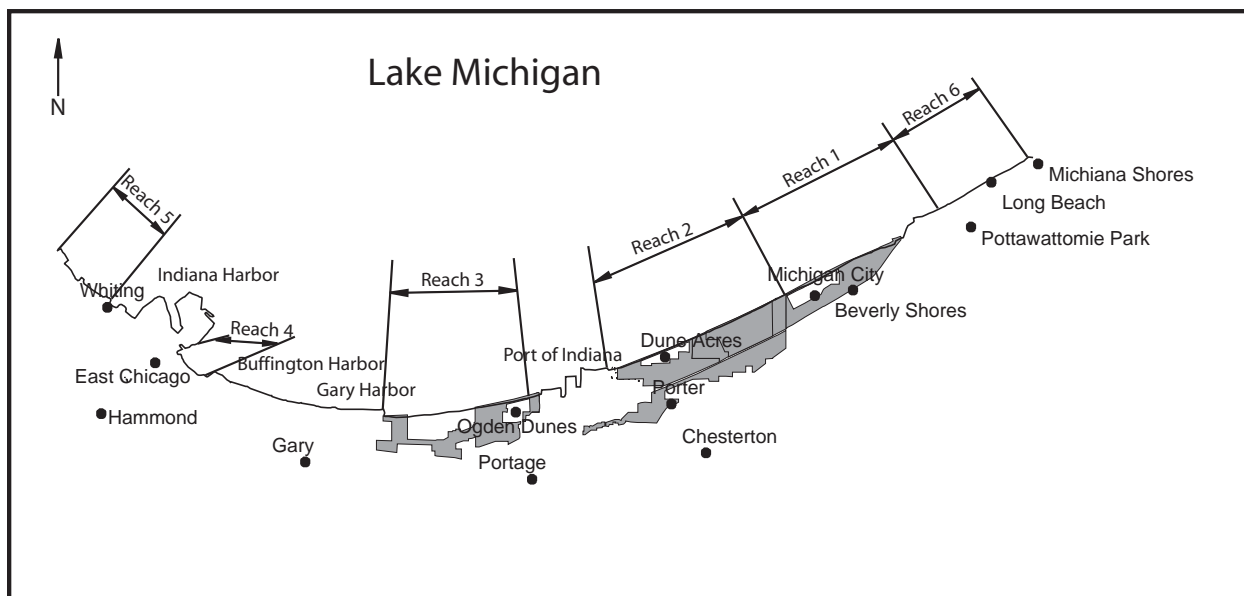


Figure 10-1: Lake Michigan Indiana Reaches

The segments have been evaluated in past studies independently because no significant sediment transport occurs between them. The total littoral barriers formed by the coastal structures separating the cells influence adjacent updrift and downdrift reaches of coastline, but at the same time isolate each reach. The exception is Reach 1 and Reach 2, which have no large structure separating them.

There are portions of Indiana's shoreline that are transition zones between the highest erosion rates that occur immediately downdrift of a total littoral barrier and the accretion zones that occur immediately updrift of the next total littoral barrier. The shoreline west of Ogden Dunes, in Porter County, is the Indiana Dunes National Lakeshore's West Beach Unit. This portion of the shoreline is a transition zone from the highest erosion conditions immediately west of the Burns Small Boat Harbor to a shoreline that gradually becomes accretional in Lake County. Here in the transition zone, the shoreline sometimes experiences periods of erosion and then periods of accretion in this area.

There are three areas not designated in the reaches, which constitute total littoral barriers. These areas are heavily constructed lengths of shoreline and provide no source of sediment.<sup>6</sup> The ACOE originally excluded the areas from the designated reaches for study purposes because the shoreline is completely protected by erosion protection structures. These areas include:

- Burns International Harbor Complex (Burns International Harbor and Bethlehem Steel).
- USX lakefill breakwater to the east side of the Buffington Harbor structure.
- Indiana Harbor and Ship Canal complex (Inland Steel and LTV Steel).

### **High Erosion Hazard Areas**

A High Erosion Hazard Area (HEHA) is a portion of the shoreline with a long-term erosion rate greater than one foot per year. The Indiana shoreline of Lake Michigan includes several HEHAs; although, many of the areas are currently protected from erosion by man-made structures or are included in the National

<sup>6</sup> Wood and Davis, 16.

Park or State Park where the natural shoreline is preserved.<sup>7</sup> See Figure 10-2.

High Erosion Hazard Areas in LaPorte County include areas located in Michiana Shores and Long Beach east of Michigan City. The portion of the shoreline in Michiana Shores, however, has been protected by rock revetment in order to protect Lake Shore Drive. Private homeowners in Long Beach have constructed seawalls. The Indiana Dunes National Lakeshore owns portions of the shoreline west of Michigan City. Areas such as Crescent Dune and Mount Baldy are intended to remain as natural shoreline. However, nonstructural methods of controlling erosion (beach nourishment) have been used here in 1974, 1981, 1996, and 1997 through 2000 because a portion of this erosion is the result of a man-made structure (Michigan City jetty) and is not considered a natural cause of erosion.

High Erosion Hazard Areas in Porter County include areas located in Indiana Dunes State Park, Town of Porter, Dune Acres, Burns Harbor, Ogden Dunes, and West Beach. The HEHA identified on property owned by the Indiana Dunes State Park is maintained as natural shoreline. The HEHA in the Town of Porter is just a short length of shoreline and although all of the shoreline owned by the Town of Dune Acres is a HEHA, only a minimal area is left unprotected by hard structures.

While only slightly less than one mile of shoreline extending west of the Burns Small Boat Harbor structure is considered a HEHA, the area contains some of the highest erosion rates on Indiana's coastline. Most of this area is protected by the Harbor breakwater, owned by the National Lakeshore, or protected by erosion protection structures built by private property owners in Ogden Dunes. The first 1,000 feet is owned by the Indiana Dunes National Lakeshore, and is maintained as natural shoreline. During the March 9, 1998 blizzard, this part of the shoreline eroded 40 feet. This area has received beach nourishment in the past. In 2000, when the ACOE dredged the navigable channel of Portage/Burns Waterway, the clean dredge material was placed here forming a protective artificial dune-bluff. The western portion of the shoreline covered by this HEHA is within the Town of Ogden Dunes. In 1997, a new seawall built by the State of Indiana further protected the eastern most homes. Some form of erosion protection now essentially protects the whole residential community. In addition, clean sand from the dredging around the NIPSCO Bailly power plant water intake in Lake Michigan is deposited on the outer sand bars at Ogden Dunes, providing sand to this sand starved area of Indiana's shoreline.

The easternmost portion of the Lake County shoreline near Wells Street Beach (on the county line) is designated as a HEHA. This is still part of the transition zone described above. The only other location along the shore in Lake County that could be evaluated for erosion potential was Whihala Park Beach in Whiting. Very little of the shoreline in Lake County is designated as a HEHA because most of the shoreline west of Gary has extensive erosion protection structures constructed by the shoreline industries. Evaluation regarding erosion potential is not feasible in these highly constructed areas.

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<sup>7</sup> Correspondence from Stephen Davis, Lake Michigan Specialist for the Indiana Department of Natural Resources (August 5, 1996).

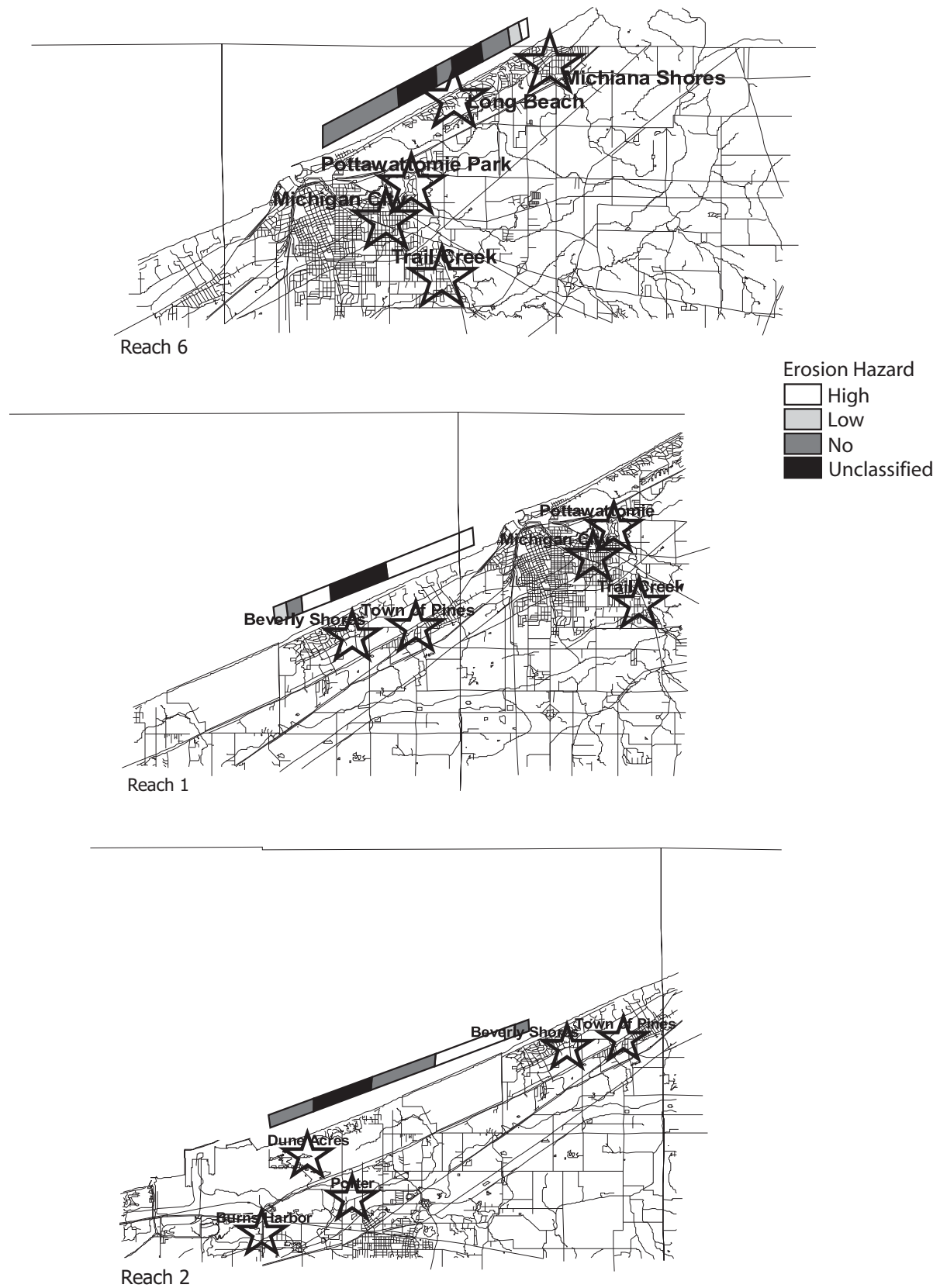


Figure 10-2: Erosion Hazard Classification for LaPorte and Porter Counties

### Coastal Dune-Bluff System

The dune-bluff system, or fastland region as discussed in the *1998 State of Indiana Coastal Situation Report*, extends landward from the base of a dune or bluff face (Figure 10-3). This is the dune-bluff system, which is currently exposed to direct wind-wave attack at its base, and is the area most often modified by erosion protection structures.

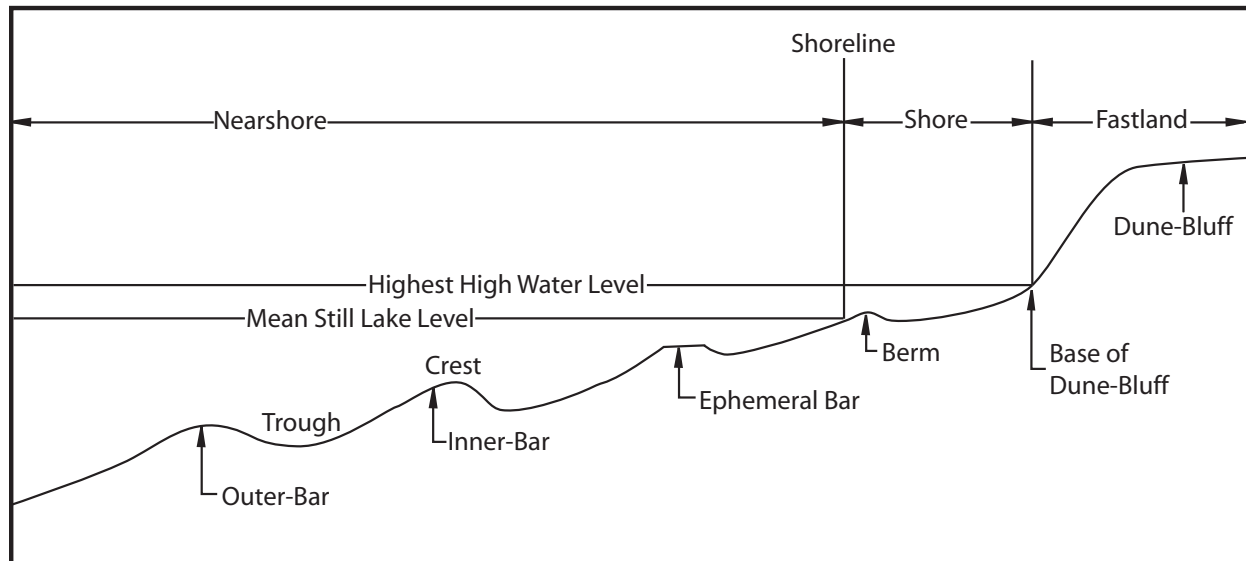


Figure 10-3: Cross Section of the Coast

Stability of the lakeward limit of this system is determined by dune-bluff height, slope of the dune-bluff face, and vegetation. The *1998 State of Indiana Coastal Situation Report* determined dune height, bluff height, and shore type for the region. Based on this work, the dune-bluff classification system is as follows: low dune-bluff is a height of less than 10 feet, intermediate dune-bluff is a height between 10 and 25 feet, and high dune-bluff is a height of greater than 25 feet. See Figures 10-4 and 10-5.

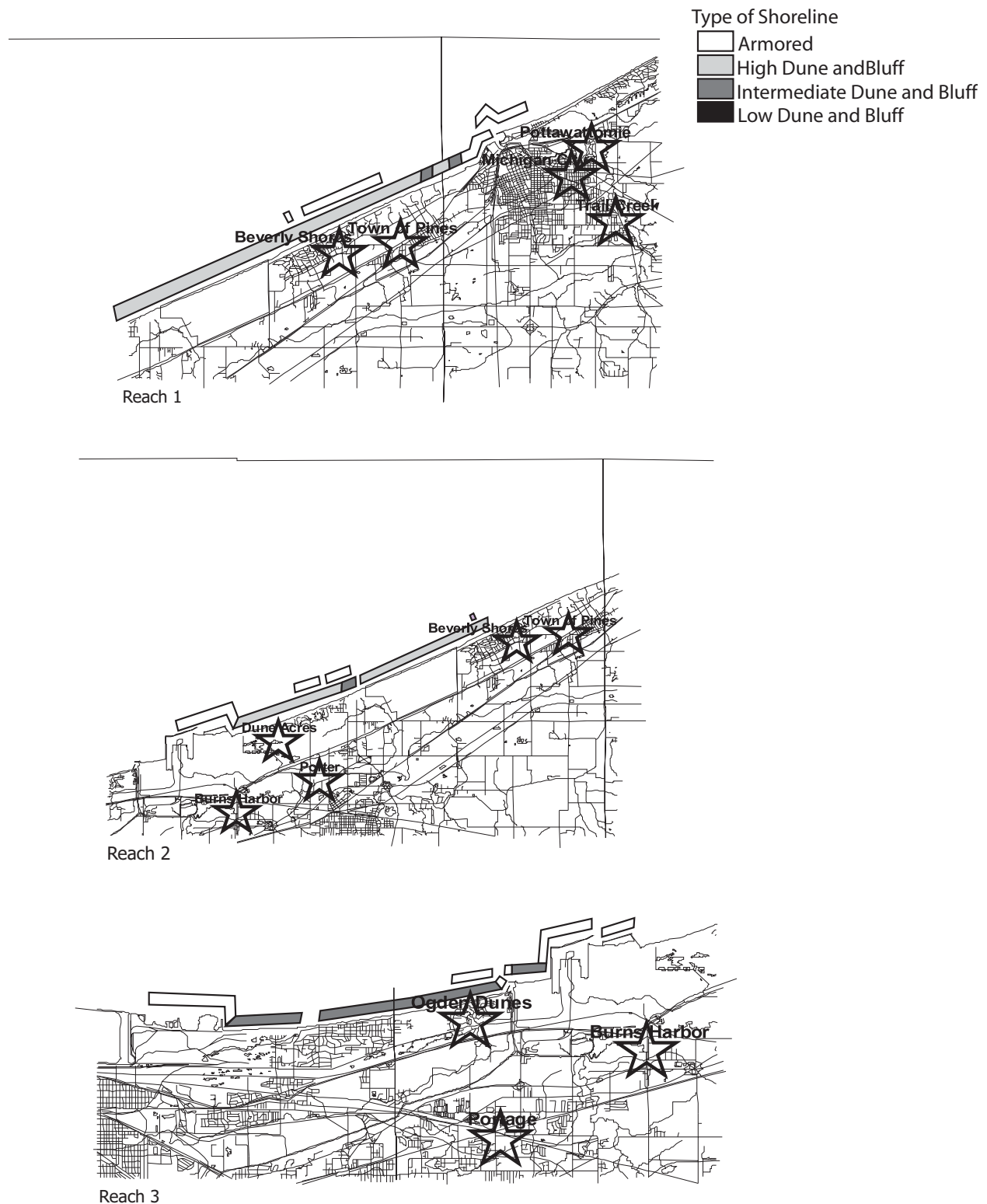


Figure 10-4: Dune-bluff Classification LaPorte and Porter Counties

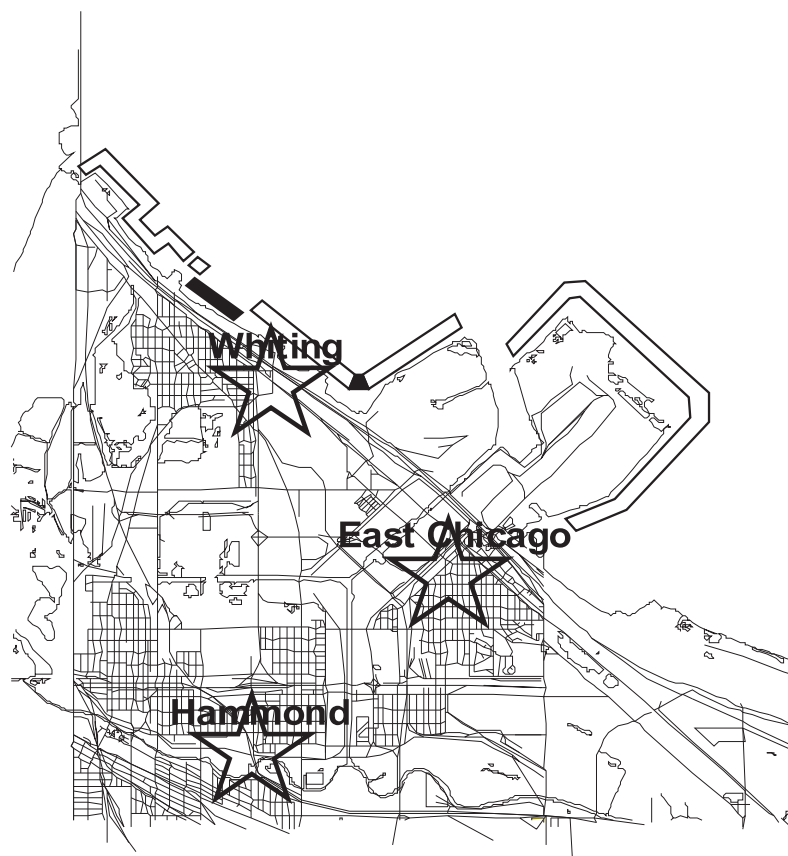
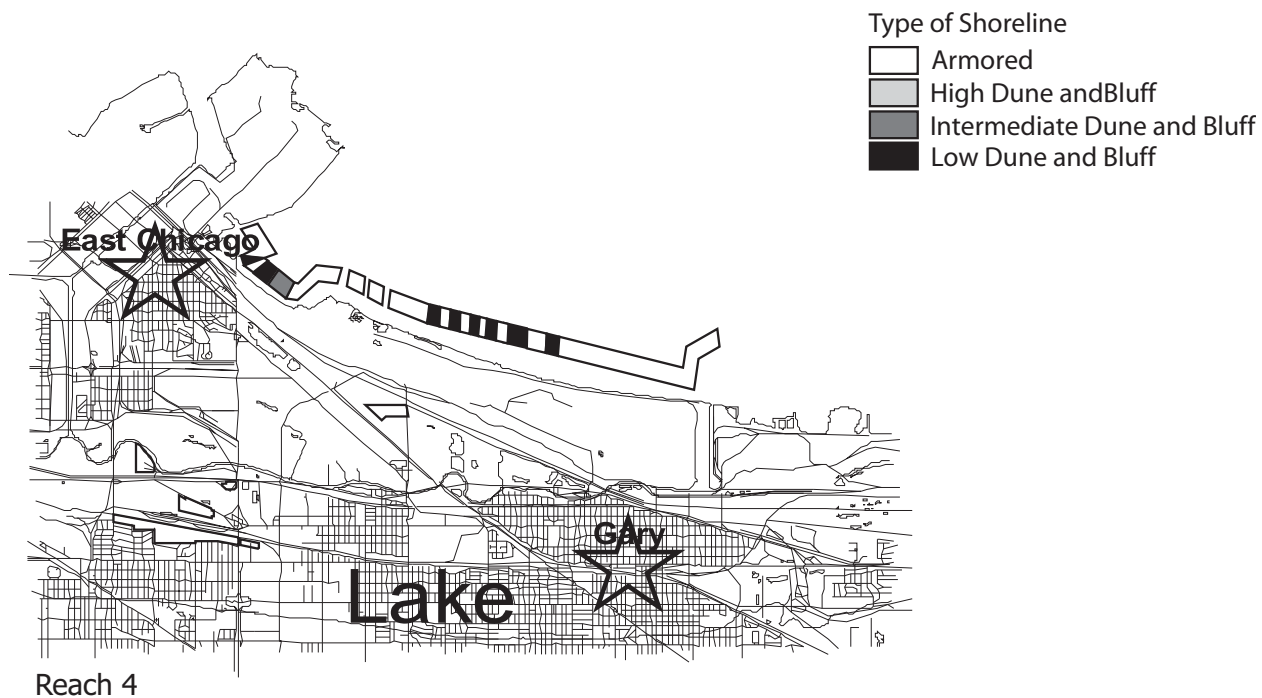


Figure 10-5: Dune-bluff Classification for Lake County

The *Coastal Situation Report* also determined the dune-bluff erosion hazard for each location along the coast using the recession rates. The erosion hazard was classified as high (recession greater than one foot per year), low (recession between one foot and 0.1 foot per year) and no erosion (recession less than 0.1 foot per year). Unclassified locations are those for which no recession rates were determined. Areas of coastline where no dune-bluff is present were left blank (Table 10.1).<sup>8</sup>

The Southern Lake Michigan Coastal Erosion Study by the United States Geological Survey in 1994 looked at the sediment budget for the entire southern basin of Lake Michigan. The study took into account the various sources and sinks into the longshore sediment transport system and determine which components were greatest. The largest source of sand into the system is from the dune system. The largest sink for sand is offshore, outside of the longshore transport system. The second largest sink for sand is within the dune complex.

Table 10-1: Summary of Indiana Shoreline Conditions<sup>9</sup>

County and Reach	Location	Length of Shoreline (ft)	High Erosion Hazard Area (ft)	Protected Shoreline (ft)	Method of Protection
LaPorte County (Reach 6)	Michiana Shores	350	350	350	Rock revetment
	Duneland Beach	3,750	650	3,750	Rock revetment
	Long Beach	11,000	2,300	10,800	Vertical walls and rock revetment
	Michigan City, Washington Park Beach	11,250	0	0	
LaPorte County (Reach 1)	Michigan City, Washington Park Marina	1,400	0	1,400	Federal breakwater
	NIPSCO	5,550	0	5,550	Steel sheet piling and stone toe protection seawall
	Indiana Dunes National Lakeshore (Mt. Baldy)	3,550	3,550	0	
Porter County (Reach 1)	Indiana Dunes National Lakeshore (Mt. Baldy)	7,000	7,000	0	

<sup>8</sup> Wright, J., Meadows, G., Caufield, B., Reid, G., and Zhang, Y., STATE OF INDIANA COASTAL SITUATION REPORT (1998).

<sup>9</sup> This Table is taken from A Synthesis of Major topics in the Lake Michigan Coastal Area, 1999, written by the LMCCP. The document can be found at [http://www.state.in.us/nrc\\_dnr/lakemichigan/](http://www.state.in.us/nrc_dnr/lakemichigan/)

County and Reach	Location	Length of Shoreline (ft)	High Erosion Hazard Area (ft)	Protected Shoreline (ft)	Method of Protection
	Indiana Dunes National Lakeshore (Beverly Shores)	13,000	12,000	13,000	Rock revetment
	Indiana Dunes National Lakeshore	3,600	3,600	0	
Porter County (Reach 2)	Indiana Dunes State Park	17,200	3,900	0	
	Indiana Dunes National Lakeshore	620	0	0	
	Town of Porter	2,300	700		
	Town of Dune Acres	7,850	7,850	5,450	Combination of vertical walls and rock revetment
	Indiana Dunes National Lakeshore	4,800	1,000	0	
	NIPSCO (Bailly Plant)	1,900	0	1,900	Vertical walls and groins
Porter County (Between Reach 2 and 3)	Burns International Harbor complex (Bethlehem Steel and Port of Indiana)	19,180	0	19,180	Industrial
	National Steel Midwest Division	800	800	800	Burns Small Boat Harbor breakwater
Porter County (Reach 3)	Indiana Dunes National Lakeshore	1,000	1,000	0	
	Ogden Dunes	4,750	4,050	4,750	Vertical sheet piling walls and toe stone; rock revetment
	Indiana Dunes National Lakeshore (West Beach Unit)	6,150	650	0	
Lake County (Reach 3)	City of Gary (Wells St. Beach)	15,500	470 (Beach area)	0	
	Indiana Dunes National Lakeshore	2,750	0	0	
Lake County (Between Reach 3 and Reach 4)	USX - Gary Harbor complex (steel mill)	41,250	0	41,250	Industrial



County and Reach	Location	Length of Shoreline (ft)	High Erosion Hazard Area (ft)	Protected Shoreline (ft)	Method of Protection
Lake County (Reach 4)	City of Gary (NIPSCO Dean Mitchell Plant, Marblehead Lime, Lehigh Cement, Buffington Harbor)	4,500	0	4,500	Industrial
	East Chicago (Pastrick Marina and Gaming Boat)	2,300	0	1,750	Rock revetment
Lake County (Between Reach 4 and Reach 5)	Indiana Harbor and Ship Canal complex (Inland Steel, LTV Steel)	37,850	0	37,850	Industrial
Lake County (Reach 5)	Amoco Oil Company	6,850	0	2,750	Rock revetment
	City of Whiting	2,500	0	2,500	Rock revetment
	Lake County Parks and Recreation Department (Whihala Beach)	4,450	720	0	
	City of Hammond (Hammond Water Filtration Plant, Marina, Gaming Boat)	7,650	0	7,650	Binwall, breakwater, and rock
	Southern Energy Company	4,730	0	4,630	Wooden piling
<b>TOTAL</b>		<b>257,330 (49 miles)</b>	<b>50,590 (9.5 miles)</b>	<b>165,310 (31 miles)</b>	

### **Flood Hazard Areas**

Most of Indiana's shoreline is either in a relatively natural state adjacent to parklands or is armored. The risk of flooding is minimized. There is, however, the potential for episodic erosion due to climatic conditions affecting coastal dynamics. The pattern of lake level rise and fall is unpredictable, but there is no doubt there will continue to be significant changes in lake elevation. The sporadic storm events that occur during periods of high lake levels can cause the lake to have devastating impacts on the shoreline, sometimes, regardless of the existing erosion protection.

High lake levels when combined with strong winds result in powerful water currents. The currents may pose an immediate hazard to public safety and may also result in significant shoreline erosion. Wind set-up, the "increase in elevation of relative still water level due to wind stress," actually tilts the lake surface. "Essentially, wind set-up raises the effective water level, which in turn allows storm waves to penetrate further landward before breaking. This effect transfers more wave energy directly to the backbeach dune-bluff area resulting in high levels of coastal erosion and dune-bluff recession." Along the Indiana coast,

this effect is usually associated with strong northerly storms that tilt the lake surface lower in the north and higher in the south.<sup>10</sup>

## **Assessment of the Effects of Shoreline Erosion**

Erosion rates typically vary through time from high erosion to low erosion periods, determined by climatic "storminess," long term changes in lake level, and the influence of sand availability due to man-made structures. Some years may see high erosion because of a combination of severe storm events, high lake level, and severe sand starved conditions. Some years may see low erosion because of mild storms, low lake levels, and abundantly wide sand beaches. In order to plan for coastal development and protection of the shoreline, long term records covering both types of erosion conditions are needed for a reasonable estimate of the background erosion rates that can be expected for a particular portion of the shoreline.<sup>11</sup> Averaging the episodes of high and low erosion should provide a fairly good estimate of long term erosion rates to allow a fairly accurate estimate of future erosion. The average background erosion rate for the Great Lakes is three feet annually, but the rate may also vary considerably by locality. For example, the average background erosion rate for Mount Baldy at Michigan City, Indiana is about ten feet annually.<sup>12</sup>

Aerial photography is currently the primary method Indiana uses to assess erosion along the shoreline. Every other year, DNR photographs the entire length of the shoreline at a scale of 1 inch = 800 feet. The photographs have been collected by DNR Lake Michigan Specialist since 1987 and are used to monitor erosion and its potential impacts along the coast. In addition, situations that require additional monitoring, such as the impact of severe storm events, are recorded with aerial photographs as needed. Aerial photographs of the shoreline have been archived since 1939 at the Purdue University Civil Engineering Department. The *Coastal Situation Report* contains a complete listing of sediment transport volume, wave refraction, and cumulative dune-bluff recession and accretion at all sections of Indiana's shoreline. The Lake Michigan Specialist utilizes this information to evaluate the impacts of existing coastal structures and potential impacts of proposed coastal structures.

The DNR Lake Michigan Specialist also analyzes the shoreline, structures, and sand movement, to estimate impacts of erosion at specific locations. Aerial photographs provide a permanent record of the status of the coast for future reference. The photographs are also used to identify new construction along the coast and possible violations.

## **Studies**

Several studies have been conducted to analyze erosion rates along the Indiana coast. Both the ACOE and the Purdue University Great Lakes Coastal Research Laboratory have collected and analyzed erosion data through surveys and historical records to provide baseline information for the continued assessment of erosion along the Indiana shoreline by the state. Additional studies conducted on specific construction projects or structures by entities such as consulting firms as a condition on permits issued by the State build upon this baseline data. The following paragraphs highlight studies frequently used by Indiana.

In 1981, the Great Lakes Coastal Research Laboratory of Purdue University published a report which provided detailed shoreline recession, bathymetric profiles, and coastal inventory data. The report focused

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<sup>10</sup> Wood, Hoover, Stockberger, Zhang, Coastal Situation Report for the State of Indiana, 41-43 (June 1988).

<sup>11</sup> Indiana Department of Natural Resources, Water Resource Availability in the Lake Michigan Region, Indiana, 48 (1994).

<sup>12</sup> Indiana Department of Natural Resources, Northwest Indiana Public Work Groups: 865 Annotations by the Indiana Department of Natural Resources, 692 (1994).

upon the shoreline area between Michigan City and the Indiana-Michigan border and outlined the existing conditions of this portion of shore (Reach 6).<sup>13</sup> A similar compilation of data was published by Purdue University for the National Park in 1986 providing an assessment of the area of coastline west of the Michigan City Harbor to USX and Gary Harbor complex.<sup>14</sup> Purdue University assessed the remaining portion of the shoreline for DNR in a report published in 1988, which also included updated information on the previous two studies. The western portion of the Indiana's coast included in Reach 5 was also studied by an engineering firm (Seaco) in 1987 for the evaluation of a marina site in Hammond. These reports present highly detailed analyses of coastal conditions along the Indiana shoreline. However, the studies lack an integrated time base and unified presentation for the entire stretch of Indiana coast.

In 1998, Purdue University updated the 1988 study, providing a unified presentation of current data. The report includes a complete assessment of the shoreline and adjacent nearshore waters of Lake Michigan from the Indiana-Illinois border to the Indiana-Michigan border. A thorough evaluation of coastal wave and current conditions, nearshore bathymetry, and shoreline adjustment within Indiana's coastal area is included. Emphasis is placed on coastal processes and their relation to historic shoreline adjustment as well as contemporary erosion hazard. Particular attention is given to changes in shoreline and bluff top position, movement and persistence of submarine bars, and seasonal and long-term change in beach width. Another important aspect of this report is the evaluation of the influence of coastal engineering structures on Indiana's shoreline.<sup>15</sup>

### **Indiana Coastal Monitoring Project**

In partnership with federal coastal program funds, options to expand and enhance an Indiana coastal monitoring project could be pursued. The feasibility of the following components would be considered.

Annual aerial photography of the entire coast at a scale of at least 1 inch = 800 feet. These photographs would be useful in monitoring small sized structures constructed along the shoreline.

Three-dimensional bathymetric surveying conducted on a regular basis. The previously used two-dimensional system has since been found to be inadequate. A boat crossing the offshore bathymetry with connections to a beach survey can conduct the three-dimensional analysis. The time between surveys can be determined by range of lake-level variation, recent wave climatology, and regulatory program needs, but should not exceed five years. A two-year interval would be most desired. A well-documented set of control point monuments with benchmarks could be established away from the bluff line. The 26 ACOE's Coastal Engineering Research Center (CERC) survey lines monitored from 1967 to 1973 and resurveyed by Purdue University in 1988 would be included in the program. Surveys would be conducted from the top of the bluff, offshore to depth of closure (25 to 30 feet of water depth).

Third, beach profile surveys and site photography could be used to document coastal storm damage effects. Beach profile data should be collected immediately following major storms at selected stations in the Indiana Dunes State Park beach and nearshore survey grid. Site photography would be used to verify shoreline change effects at each survey location.

A state monitoring project would continue to provide updated baseline information for shoreline analysis by the Lake Michigan Specialist as well as planners and developers. The monitoring project would provide a long-term database allowing comparisons to be made across time and along the shoreline.

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<sup>13</sup>Davis, Wood, Weishar, Shoreline Situation Report, LaPorte Indiana (1981).

<sup>14</sup> Wood and Davis, Indiana Dunes national Lakeshore Shoreline Situation Report (1986).

<sup>15</sup> Wright, J., Meadows, G., Caufield, B., Reid, G., and Zhang, Y., State of Indiana Coastal Situation Report (1998).

Surveys would provide a more accurate determination of the condition of shoreline features, such as position of the dune-bluff top and beach width, than aerial photographs. The surveys would also provide data on the status of lakebed features, such as sandbars and sand movement, and allow for mapping offshore contours to determine impacts on the lakebed.

Data from the coastal monitoring project could be made easily accessible. Interested individuals such as permit applicants would be able to use the information to design more sound construction projects. DNR and other agencies would also be able to conduct cost-effective analysis of proposed construction projects using the baseline data. Modifications to or mitigation for proposed construction projects would be more easily determined and changes along the coast or lakebed due to new projects would be inherently monitored.

### **Technical Assistance**

Technical assistance provided by the DNR Lake Michigan Specialist is an essential component of the State's processes to assess effects of erosion. The Lake Michigan Specialist is stationed on Lake Michigan in Michigan City to be positioned to respond to and assess emergency situations, monitor coastal projects during construction, respond to shoreline related inquiries by homeowners and local governments, and advise individuals, consulting firms, and contractors hired to work on Lake Michigan by local governments and property owners.

The Lake Michigan Specialist provides technical guidance upon request to individuals seeking information about coastal processes which include wave dynamics and the generation of coastal currents; sediment transport and deposition; the effects coastal structures have on sand transport and erosion; the importance and relation of offshore sand bars to beach and dune erosion; and the dynamics of storms and lake level changes and how these interact with coastal structures. Permit applicants are encouraged to consult with the Lake Michigan Specialist regarding proposed construction activities along the coast prior to applying for a permit. Site visits, individual consultation, public meetings, and educational lectures are examples of forums the Lake Michigan Specialist is often requested to use to provide technical assistance.

### **Mechanisms to Study and Evaluate Ways to Control or Lessen the Impact of Shoreline Erosion**

#### **Evaluation Required by Permit Conditions**

The Navigable Waters Act<sup>16</sup> requires a permit be obtained for activities involving placing fill in, erecting permanent structures in, or removing materials from Lake Michigan. Before issuing a permit under this Act, DNR must consider several implications of the project.<sup>17</sup> The impact of the project, however, may be difficult to predict due to the complexities associated with the coastal dynamics of Lake Michigan.

Through the permitting process, DNR may require an applicant to meet certain conditions before the project start. Computer modeling of a project's impact on coastal processes has been requested for completion before a project commences along the Lake Michigan shoreline. Applicants have also been requested to complete monitoring programs following the construction of large structures. These activities are requested to study and evaluate ways to control or lessen the impact of erosion in unprecedented or experimental situations. For example, prior requests for computer modeling of a

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<sup>16</sup> IC 14-29-1.

<sup>17</sup> Criteria DNR must consider is found at 312 IAC 6. The criteria are also discussed in the chapter Existing Management Authorities under the section titled Coastal Hazards.

proposed project or post-monitoring of a structure have helped evaluate whether: 1) there was an increase in erosion as a result of construction; 2) erosion protection was necessary for adjacent property owners; 3) impacts on shipwrecks, other cultural resources, or on-going monitoring programs were likely; and, 4) waves would be magnified to dangerous or damaging levels as a result of construction. Studies of this nature have also helped monitor coastal effects to determine potential conflicts among property owners regarding the cause of erosion.<sup>18</sup>

### **Analysis by the State of Indiana**

DNR evaluates the performance of structures through the permitting and technical assistance process. Surveys by state crews and other monitoring by the Lake Michigan Specialist are also conducted to evaluate beach and lake bottom erosion or accretion associated with new structures.<sup>19</sup> In addition, photographs are often used to document pre- and post- construction conditions along the shoreline.

### **Indiana Coastal Information System**

Purdue University developed for DNR an Internet application to allow remote users access to a complex hydrodynamic model for the Indiana portion of the Lake Michigan shoreline. The Indiana Coastal Information System was initially developed as a pilot project to validate the use of real-time data from a NOAA buoy (45007) in the model. The pilot project completed in 1998 allows a user to analyze water circulation patterns, water velocities, and other data around the Indiana Harbor and Ship Canal. This analysis is performed using the ACOE TABS-MD numerical modeling system.<sup>20</sup> A completed system, if funded, would allow similar analysis of the entire coastline.

In general terms, the system determines the direction of the current along the shoreline in real-time. The user can use this information to evaluate the movement of sand along the shoreline. Historical wind and wave information can be entered into the model to better understand and compare consequences of past storm events. Analysis of this information could help predict potential damages from a particular type of storm condition in the future.

In addition to sand movement, a completed system would be helpful in a variety of situations that require a geographic location of an object in the lake in real-time. For example the approximate direction of drift of boats reported missing, drowning victims, spilled oil, or *E. coli* associated with beach closings could be predicted. Indiana's participation in the federal coastal program would provide additional resources to complete the Coastal Information System to help evaluate the impact of erosion.

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<sup>18</sup> Several recent projects required technical analysis by the applicant. 1) When the Hammond Marina was constructed, a monitoring program was undertaken by the applicant to determine whether there would be an increase in erosion of the lake bottom as a result of construction of the breakwater and whether additional erosion protection would be needed by adjacent property owners. Surveys were conducted across the breakwater and adjacent lake bottom for a five-year period in order to evaluate conditions during various storm events and lake level changes. 2) A five-year monitoring program was required of the breakwater constructed for a gaming boat at the Pastrick Marina in East Chicago. Surveys of the shoreline east of the Marina provided information to evaluate possible erosion of the beach by the structure. 3) Computer modeling of waves inside the Burns International Harbor was required when an energy-reflecting sheet steel wall was proposed to replace an energy absorbing shoreline type in an already high-energy area of the harbor. The model evaluated whether the wall with its highly reflective characteristics would endanger boats in the harbor after its construction.

<sup>19</sup> Groins (grout-filled tubes) constructed at the east end of Ogden Dunes were monitored by DNR Division of Water. Surveys were conducted by the Division of Water frequently to evaluate performance of the structures. Accumulation of sand was found to occur on one side and erosion was found to occur on the other side. The structures were removed.

<sup>20</sup> The application can be found at <http://www.ecn.purdue.edu/Coastal/>

### **Other Sources of Information**

Other sources of information can be invaluable when evaluating and studying ways to control or lessen the impact of erosion. The previous mentioned reports prepared by Purdue University and the ACOE provide baseline information for the analysis of coastal conditions. Studies conducted in other states are also useful.

Projects undertaken by the ACOE along the Indiana shoreline that involve data collection are also helpful. In 1974 and 1981 the ACOE placed beach nourishment at the Mount Baldy area of the Indiana Dunes National Lakeshore. The Purdue University Great Lakes Coastal Research Laboratory was hired by the ACOE to monitor the beach nourishment performance following both projects. The monitoring data allowed the evaluation of the rate of erosion of an artificial beach and dune. Performance of the type of sand and grain size used for nourishment can also be analyzed since sand used for nourishment may come from different locations. This information is useful for determining potential benefits of additional beach nourishment projects along the coast.

The ACOE has provided sand nourishment in the Mount Baldy area from 1996 through 2000 and has collected monitoring data. The monitoring data, however, has not been analyzed. Through an Indiana coastal monitoring program, Indiana can work with the ACOE to analyze this monitoring data and continue to share this information with Indiana.

### **Restoration of Areas Adversely Affected by Erosion**

Although much of Indiana's shoreline is already protected by structures or located within park boundaries, where erosion is considered to be part of the natural coastal process, there are areas where erosion rates have been increased by man-made structures. This additional erosion has adversely affected the shoreline, and does not fit into the 'let nature take its course' philosophy. Restoration of these areas is conducted primarily through the encouragement of beach nourishment and the issuance of permits to property owners to restore their existing erosion protection structures.

Beach nourishment is encouraged through the Sand Nourishment Fund<sup>21</sup> established by state statute. In addition, rules provide incentive for the beneficial use of suitable dredged material. A royalty fee imposed for the removal of material from a navigable waterway is waived if the material is used for proper beach nourishment.<sup>22</sup>

The ACOE has placed beach nourishment projects in the Mount Baldy area of the Indiana coast over the course of several years. Indiana supports the ACOE activity by issuing a general authorization<sup>23</sup> for the work. Consultation and cooperation between the State and the ACOE prior to and during the project help determine the best alternatives for sand placement as well as avoiding impacts to on-going studies or projects along the shoreline.

Owners of residential, commercial, or industrial properties that suffer erosion damage due to storm events or changes in lake level can obtain a permit under the Navigable Waters Act<sup>24</sup> to restore their properties

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<sup>21</sup> IC 14-25-12.

<sup>22</sup> 312 IAC 6-5-8(b).

<sup>23</sup> 312 IAC 6-6.

<sup>24</sup> IC 14-29-1.

along or below the ordinary high watermark. Before a permit is issued, DNR considers the impact of the restoration project according to criteria identified by rule.<sup>25</sup>

### **Coastal Areas of Significance**

As described in Chapter 8: Coastal Areas of Significance, the state can designate Areas of Particular Concern (APC). The categories of APC include areas where if development were permitted, it might be subject to significant hazard due to storm, slides, floods, erosion, and settlement. Areas with coastal dune-bluff recession rates greater than one foot per year and considered to be High Erosion Hazard areas would meet the criteria for designation as APC. APC designation is intended to address the need for heightened attention to the area's special conditions. In addition, the Coastal Coordination Program can designate an area adversely affected by erosion as an Area for Preservation and Restoration (APR), as described in Chapter 8. APR designation would increase management attention to an area and may result in restoration in the area through the Coastal Grants Program or other cooperative partnership.

### **Existing Management Authorities to Manage the Effects of Erosion**

The Indiana portion of Lake Michigan is held in trust for the benefit of the general public by the State of Indiana. Indiana is obligated to preserve for the public the use of navigable waters free from undue private interruption and encroachment. This general concept is often referred to as the "Public trust doctrine."

DNR is charged with the responsibility to manage Lake Michigan for the benefit of the public. The following section outlines the existing authorities used to manage activities that have the potential to interfere with public use and enjoyment of Lake Michigan. The authorities identified in this section are explained in more detail in Chapter 5: Existing Management Authorities, particularly in the sections Coastal Hazards and Water Quantity.

### **Delineating the Ordinary High Watermark**

The ordinary high watermark provides an elevation that can be used to define a physical boundary, which delineates navigable waters. Lake Michigan is a federal and state navigable water. The ordinary high watermark for the Indiana shore of Lake Michigan is set by rule at 581.5 feet (IGLD 1985), (582.252 feet (NGVD 1929)). The ACOE uses the same elevation for the southern shore of Lake Michigan.<sup>26</sup>

The physical area of Lake Michigan in Indiana (234.5 square miles) is what is included within its ordinary high watermark. Because water levels raise and lower periodically, the actual water's edge at any particular time is likely to be inside or outside the legal boundaries of navigability. The practical result is that beaches along Lake Michigan, which emerge during low-water periods below the ordinary high watermark, are public domain. Conversely, areas above elevation 581.5 feet (IGLD 1985) along Lake Michigan are the private property of the riparian owner, even though inundated during periods of high water.

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<sup>25</sup> 312 IAC 6. The criteria are also discussed in the chapter Existing Management Authorities under the section titled Coastal Hazards.

<sup>26</sup> The natural resources commission ordinary high watermark for Lake Michigan is set forth at 312 IAC 1-1-26(2).

## **Construction Along the Lake Michigan Coast**

### **Navigable Waters**

Since 1899, the ACOE has had broad permitting authority to control the placement of wharves, piers, breakwaters, jetties, and similar structures within the navigable waters of the United States.<sup>27</sup> The authority extends both to dredging and filling. Bridges and levees are also subject to control.<sup>28</sup> In the exercise of the authority, the ACOE conducts a public interest review and is entitled to consider pertinent factors other than navigability, including the environmental impact of a project.<sup>29</sup> Should the ACOE determine a project requires a permit under the Clean Water Act, a Section 401<sup>30</sup> water quality certification from IDEM is also necessary.

The core of state regulation for activities along or within the ordinary high watermark of Lake Michigan is the Navigable Waterways Act.<sup>31</sup> Most persons must obtain a permit from DNR under the Navigable Waterways Act to place fill or erect a permanent structure or to remove material.<sup>32</sup>

Rules have been adopted to help implement the statute.<sup>33</sup> DNR must consider, before issuing a permit subject to the Navigable Waterways Act, how the proposed construction project would impact the “public trust doctrine.” In addition, the “likely impact upon the applicant and other affected persons,” as well as the impact to the lakebed (owned by the State) itself must be evaluated.<sup>34</sup>

The Navigable Waterways Act and its accompanying rules have direct application to the construction of structures that have the intended or unintended result of affecting shoreline processes. DNR is empowered and mandated, before issuing a permit, to evaluate how a construction activity is likely to contribute to accretion and erosion to the property of the applicant or to another person along Lake Michigan or another navigable waterway.

Permanent structures proposed to be constructed in Lake Michigan are evaluated by DNR to determine the structure’s likely impact on changing of existing coastal dynamics which could cause shoreline erosion and accretion, alter natural or existing sand movement within the lake, and interaction with existing structures. Monitoring of the structure or of affected lands and waters by the applicant may be required to determine the impact of the structure upon coastal dynamics or other environmental factors. Negative impacts identified through monitoring may require mitigation activities. Homeowners, businesses, or municipalities contemplating construction along the Lake Michigan shoreline are encouraged to obtain technical assistance from the DNR Lake Michigan Specialist who is located in the DNR Lake Michigan Regional Office in Michigan City.

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<sup>27</sup> Rivers and Harbors Appropriations Act of 1899 (33 USC 401, *et. seq.*). See particularly 33 USC 403. “Navigable waters of the United States” are those waters that connect with other waters to form a continuous interstate highway. *National Wildlife Federation v. Alexander* (1979), 198 U.S.App.D.C. 321, 613 F.2d 1054. As a practical matter, the Rivers and Harbors Act is often administered by the Army Corps and the EPA in concert with the Clean Water Act (specifically 33 USC 1344, “Section 404”). This association is so close, that in casual conversation, the Clean Water Act is sometimes mistakenly attributed with provisions of the Rivers and Harbors Act.

<sup>28</sup> 33 USC 401.

<sup>29</sup> *United States v. Members of the Estate of Boothby* (1994 CA1 Puerto Rico), 16 F.3d 19.

<sup>30</sup> 33 USC 1341.

<sup>31</sup> IC 14-29-1.

<sup>32</sup> IC 14-29-1-8(a). Public or municipal utilities are exempted.

<sup>33</sup> Effective October 11, 1997, the rules governing navigable waterways were recodified from 310 IAC 20 to 312 IAC 6. The recodified rules also included some new provisions.

<sup>34</sup> 312 IAC 6-1-1(f).



Navigable waters can be impacted by activities associated with easements. In general, an easement is a right of use over the property of another. Easements are sought by one entity over another entity's property for uses such as utility line crossings, sewer lines, pipeline crossings, or access needs. A guidance document has been developed for the management of easements on properties owned by DNR, including navigable waters<sup>35</sup>. This document is applicable to the bed of Lake Michigan since the lake is a navigable water. The guidance primarily focuses on what DNR should consider when reviewing and making recommendations regarding requests for new or expanded easements, or modification to or abandonment of existing easements.

The guidance document outlines a process to be used by DNR to review requests for easements. The person requesting an easement is responsible for providing information needed to fully evaluate and document the easement. DNR prepares a report for the NRC that recommends approval or denial of the request. The guidance identifies several factors DNR considers when making a recommendation, which include legal restrictions or obligations, resource sensitivity, other placement alternatives, hardship to the applicant, and benefit to DNR.

Approval of a request for an easement may include conditions to be met by the applicant. Factors considered by DNR when determining conditions to be included with a grant of approval are outlined in the guidance. For example, DNR considers what are the best management practices to minimize disturbance caused by construction and future maintenance, whether the easement is described sufficiently to be clearly understood by all parties and to serve its original stated purpose, whether DNR receives fair market value, whether effort was made to place a new easement within an existing utility corridor, and whether all legal requirements have been met. Guidance regarding rights of entry to collect information for preparing an easement request and emergency construction approvals are included in the document as well.

Dispute resolution processes such as adjudication and mediation are available to parties involved in permitting matters. These processes are explained in the chapter Existing Management Authorities. An example of adjudication by the NRC for coastal restoration involves the placement of beach nourishment under the Navigable Waterways Act. On the updrift side of the Port of Indiana, excess sand accumulation has forced NIPSCO Bailly Power Plant to dredge approximately 250,000 cubic yards of clean sand on a regular basis to prevent its offshore water intake from clogging with sand. Two shoreline communities, Ogden Dunes and Beverly Shores, actively competed for the dredged sand. The NRC provided the forum to help resolve the competition. Currently, NIPSCO, Ogden Dunes, and Beverly Shores operate under an allocation agreement. Seventy-five percent of the dredged sand is bypassed to Ogden Dunes on the downdrift side of the Port of Indiana industrial complex, and deposited on the outer sand bar. The other twenty-five percent is backpassed to Beverly Shores. No royalty fee is assessed because the sand is used as beach nourishment, which benefits the State and its coastal communities.

### Lake Fill

The owner of real property, or the owner of an easement for public park purposes through real property, that borders Lake Michigan may seek a permit from DNR to fill an adjacent portion of the lake. Hazardous waste cannot be disposed on an area for which a fill permit is approved. After grant of the permit and the approval of a survey and plat by the county surveyor, and the payment of \$100 per acre, a person may obtain a land patent for the filled area.<sup>36</sup> This statutory authority does not, however, exempt an applicant from obtaining other needed approvals for filling navigable waters, waters of the United

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<sup>35</sup> Easements on Department of Natural Resources Properties and Navigable Waters, Natural Resources Commission, Information Bulletin #28, 23 Ind. Reg. 2327 (June 1, 2000).

<sup>36</sup> IC 14-18-6.

States, or waters of the State. Under former law, DNR was required to approve any application from a property owner adjacent to Lake Michigan.<sup>37</sup> In 1990, approval of a permit by DNR was made subject to its discretion, and no lake fill permit has been acted upon by a private riparian owner since DNR was granted this discretion.<sup>38</sup>

### Floodways

Flood control works, structures, and the alteration of waterways are regulated and required to be designed according to sound engineering practices in order to minimize flooding problems.<sup>39</sup> A permit is required from DNR before a person erects a structure or places fill in a floodway.

DNR regulatory authority under the Flood Control Act is limited to the area within the floodway. For many areas, floodways have been determined through studies performed for the National Flood Insurance Program. In other instances, the boundaries of a floodway are determined by DNR Division of Water using technical criteria and computer modeling designed to predict areas to be inundated and carrying flood waters during a “regulatory flood.”<sup>40</sup>

The NRC also has authority to define a specific geographic area through designation as a “commission floodway.” This process requires notice to affected landowners, an opportunity for immediate review, and approval by FEMA before becoming effective.<sup>41</sup> Currently, there are no commission floodways in the coastal area.

Floodway maps are generally available for public inspection in the local plan commission’s office or building commissioner’s office. They are also available in the DNR Division of Water office in Indianapolis and, for Northwest Indiana, in the DNR Lake Michigan Regional Office.<sup>42</sup> Questions regarding the maps should be directed to DNR Division of Water in Indianapolis.

### Flood Plains

The Flood Plain Management Act is administered at the local level and may apply to the entire flood plain.<sup>43</sup> The Act is concerned primarily with regulating construction activities within a flood plain and the portion of the flood plain that is not adequately protected by dikes, levees, and similar structures. Counties and municipalities are encouraged to delineate flood plain areas through ordinances that are no less restrictive than the minimum standards, which the NRC sets by rule.<sup>44</sup> DNR Division of Water has the “Indiana Model Ordinance for Hazard Areas” to assist counties and towns with implementing these ordinances.

DNR Division of Water at the state level coordinates the National Flood Insurance Program (NFIP). In general, the intent of the NFIP is to provide protection from potential damages caused by floods to those who need the protection, and who pay an insurance premium for this benefit. Local communities must

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<sup>37</sup> Ind. Acts of 1907, Ch. 91 and Ind. Acts of 1915, Ch. 190.

<sup>38</sup> Ind. Acts of 1990, P.L. 22. Formerly IC 4-18-13 (repealed). See now IC 14-18-6.

<sup>39</sup> IC 14-28-1-1.

<sup>40</sup> IC 14-8-2-102, IC 14-28-1, and 310 IAC 6-1.

<sup>41</sup> *Standards for the Development of a Commission Floodway Pursuant to IC 14-28-1-28*, Information Bulletin 14, Natural Resources Commission, 19 IND. REG. 3240 (August 1, 1996).

<sup>42</sup> Information is taken from the Indiana Department of Natural Resources, Division of Water, Application Assistance Manual found at <http://www.state.in.us/dnr/water/>. The DNR Lake Michigan Regional Office is at 100 W. Water Street in Michigan City. Call (219) 874-8316 with questions regarding access to the maps.

<sup>43</sup> 310 IAC 6-1-3. The “flood plain” is the entire area covered by flood waters, including the floodway. The portion of the “flood plain” outside the boundaries of a “floodway” is referred to as the “floodway fringe.”

<sup>44</sup> IC 14-28-3-2. The rules are set forth at 310 IAC 6-1.

agree to manage flood plains to avoid flood risks in order for the residents of the community to be eligible for flood insurance.

In the three coastal county area of Northwest Indiana, 13 communities and the unincorporated areas of the three coastal counties are participating in the regular phase of the NFIP. In Lake County, participating shoreline communities include East Chicago, Gary, Hammond, Whiting, and Lake County Unincorporated. Participating communities in Porter County include Burns Harbor, Portage, Ogden Dunes, Dune Acres, Porter, Beverly Shores, and Porter County Unincorporated. LaPorte County communities include Michigan City, Michiana Shores, Long Beach, and LaPorte County Unincorporated.

Generally the local ordinance requires regulation of new development in identified flood plains within the communities. New development activities include building, excavating, filling, or constructing an addition to an existing structure. The lowest floor of a building is required to be two feet above the elevation of the regulatory flood. Most communities follow the suggested classification of activities regarded as substantial improvements in special flood hazard areas. Substantial improvements are those that would incur a cost of 50% or more of the structure's value prior to the improvement. East Chicago and Dune Acres have more restrictive ordinances that designate 40% or more of an existing structure value as a substantial improvement.

### Emergency Management

The State Emergency Management Agency is responsible for coordinating the State's emergency plans. In addition, SEMA coordinates all State efforts for "preparedness for, response to, mitigation of, and recovery from emergencies and disasters."<sup>45</sup>

SEMA also administers the Indiana Emergency Management and Disaster Law.<sup>46</sup> Under this law, "each county shall maintain a county emergency management advisory council and a county emergency management organization or participate in an interjurisdictional disaster agency." A county emergency management advisory council may "exercise general supervision and control over the emergency management and disaster program of the county."<sup>47</sup> Lake, LaPorte, and Porter Counties maintain emergency management and disaster plans.

Conditions may occur that require emergency construction activity along the shoreline. DNR considers extraordinary circumstances in the permitting process under the Navigable Waters Act. Authorization for emergency construction is provided when standard application, review, and approval cannot be completed without the risk of harm to public safety or major property damage. An important element in the process is coordination by DNR with the appropriate county emergency management agency.

The person who wishes to perform emergency construction along or within the ordinary high watermark of Lake Michigan notifies DNR and the county emergency management agency. DNR performs a site inspection and consults with other appropriate agencies to the extent practicable. Approval granted by DNR is effective for 90 days unless otherwise stated. Application for a permanent after-the-fact permit, however, must be made within 90 days of the start of emergency construction for activities over which DNR has jurisdiction.

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<sup>45</sup> IC 10-8-2.

<sup>46</sup> IC 10-4-1.

<sup>47</sup> IC 10-4-1-10.

## **Other Programs to Manage the Effects of Erosion**

### **Beach Nourishment**

In addition to considering the impacts of new construction along the coast of Lake Michigan, recent laws look to the remediation of existing erosion concerns. Beach nourishment has been used and encouraged along Indiana's shore to reduce or temporarily stop excessive erosion of the natural coast.

Beach nourishment activities are encouraged through state statute. The "Sand Nourishment Fund,"<sup>48</sup> described in Section 5-2: Coastal Hazards of Chapter 5: Existing Management Authorities, provides a mechanism to protect and increase sand in Indiana along Lake Michigan.

Under the Navigable Waters Act, DNR may impose a royalty fee for the removal of materials dredged from the bed of Lake Michigan.<sup>49</sup> As an incentive, the NRC has by rule waived the royalty if the person authorized to dredge agrees to place any suitable dredge materials along the Lake Michigan shoreline as beach nourishment for the beneficial use of the general public.<sup>50</sup>

A general permit (sometimes called a "statewide permit") called a "general authorization for beach nourishment" may be sought for beach nourishment from sources landward of Lake Michigan. A person who qualifies for the general permit may place sand for beach nourishment on the Indiana Dunes National Lakeshore or Indiana Dunes State Park, either within or outside the ordinary high watermark, by writing a letter to DNR instead of obtaining a permit under the Navigable Waterways Act.<sup>51</sup>

### **Flood Control**

The Flood Control Revolving Loan Fund was established by the Indiana General Assembly to provide a revolving loan fund for the use of flood control projects. Projects eligible for the loan include: (1) removal of obstructions and accumulated debris from stream channels; (2) clearing and straightening streams; (3) creating new and enlarged channels; and, (4) the construction of bank protection works. DNR Division of Water processes technical reviews with respect to applications. The Fund is administered through the NRC and the State Board of Finance. Money is available to provide financing, not to exceed \$300,000 for a project, to counties, cities, towns, and special taxing districts. Loans under this program may not exceed ten years at an interest rate of 3%.<sup>52</sup>

### **State Hazard Mitigation Program**

Indiana's hazard mitigation program administered by SEMA provides financial and technical assistance to local governments, not-for-profit organizations, individuals and families to reduce the actual or potential risk of loss of life or property, and conducts audits on disaster claims. The program receives 75% of its funding from the federal government." (For further information on State Hazard Mitigation, call (317) 232-3831. [http://www.state.in.us/sema/Mitigation\\_Recovery.html](http://www.state.in.us/sema/Mitigation_Recovery.html)

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<sup>48</sup> IC 14-25-12.

<sup>49</sup> IC 14-29-3-2.

<sup>50</sup> 312 IAC 6-5-8(b) provides an extraction is exempt from the royalty if the "mineral is authorized by the department for placement, and is lawfully placed" in Lake Michigan for beach nourishment.

<sup>51</sup> 312 IAC 6-6.

<sup>52</sup> IC 14-28-5.

### Conservancy Districts

The Indiana Conservancy Act provides for the creation of conservancy districts for several purposes. A few purposes may be applicable to managing the effects of shoreline erosion should a local interest desire to form a district for this purpose. Specifically these purposes include: (1) developing forests, wildlife areas, parks, and recreational facilities if feasible in connection with beneficial water management; (2) preventing the loss of topsoil from injurious water erosion; and, (3) operation, maintenance, and improvement project for (A) water based recreational purposes; or (B) other work of improvement that could have been built for any other purpose authorized by the conservancy district statute.<sup>53</sup> The Indiana Conservancy Act is administered by the local court with technical assistance from DNR Division of Water.

### Coastal Zone Enhancement Program

Under the federal CZMA, competitive funding is available to states participating in the federal coastal program to improve coastal hazard mitigation efforts. States are encouraged to apply for the funding to: (1) more accurately identify coastal hazards areas; (2) direct new development and redevelopment away from hazardous areas; (3) minimize the degradation or destruction and enhance the protective functions of natural shoreline protective features; and (4) prevent or minimize threats to existing populations and structures from both episodic and chronic hazards.<sup>54</sup>

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<sup>53</sup> 14-33-1-1.

<sup>54</sup> Information obtained from the Great Lakes Coastal Hazard Mitigation Workbook prepared by NOAA-OCRM for the 1997 Great Lakes Coastal Hazard Mitigation Workshop.

# Chapter 11: Federal Consistency

## Section I

### Introduction

The term “federal consistency” refers to the requirement of the Coastal Zone Management Act, (CZMA), 16 U.S.C. 1451, 1456 et seq., and implementing regulations at 15 CFR Part 930, that certain federal actions that affect any land or water use or natural resource of a state's coastal zone be consistent with the state's federally approved coastal program. Indiana's coastal program is based upon existing state laws, which will be considered as Indiana's enforceable policies for the purposes of federal consistency. Therefore, federal consistency will be required for the state laws described in Chapter 5: Existing Management Authorities. It is important to note that Indiana’s decisions for federal consistency purposes will be based on whether an existing state law, as described in Chapter 5, would apply to the proposed action. Consistency will only be required of actions addressed by state laws, regardless of whether it is conducted by a local, state, or federal entity. Please refer to the cross-reference tables in Chapter 5 for guidance on which activities are applicable to federal consistency.

The following federal actions are subject to federal consistency:

1. Federal agency activities;
2. Federal license or permit activities- activities by private enterprise or by state or local government which require federal approval of some form; and
3. Federal financial assistance to state and local governments.

The federal consistency requirement encourages cooperation, coordination, and communication among governmental entities. Federal consistency also gives the state an effective voice in actions of the federal government affecting the state’s coastal zone.

The Indiana Lake Michigan Coastal Program (LMCP) is a comprehensive networked program that relies on the appropriate state agencies to evaluate the federal actions outlined above for consistency. Each of the state agencies networked with the LMCP manages its own responsibilities, issues its own permits, administers its own federal grant monies, etc. The DNR, as the lead state agency, coordinates federal consistency reviews with these state agencies and serves as the point of contact for consistency reviews.

The federal consistency process applies to activities that have a reasonably foreseeable effect on the coastal zone. The coastal zone is defined in Chapter 3: The Coastal Program Area. The LMCP created a list of activities for each of the three categories of federal actions subject to consistency: 1) federal agency activities; 2) federal license or permit activities; and 3) federal financial assistance activities. These lists are Table A, Table B, and Table C respectively in Section III of this chapter. The federal consistency process may apply to activities that are not listed in this chapter if the unlisted activity will have reasonably foreseeable effects on the coastal zone.

For federal agency activities, if the federal agency finds that a proposed activity will affect the coastal zone, then the federal agency must prepare and submit a "consistency determination" to the LMCP.

An applicant for a federal license or permit activity that affects the coastal zone must submit a "consistency certification" in the application to the federal agency, furnishing the LMCP a copy of such

certification and data and information necessary to demonstrate consistency. A consistency certification states that the proposed activity complies with and will be conducted in a manner consistent with Indiana's state laws.

For federal financial assistance for projects that will affect Indiana's coastal zone, the applicant must request a "consistency concurrence" from the LMCP.

A detailed description of the federal consistency process for each category of activities is detailed below.

## **A. Federal Agency Activities**

A federal agency activity is any function performed by, or on behalf of, a federal agency in the exercise of its statutory responsibilities, but does not include the granting of a federal license or permit. However, the term includes federal development projects, which involve the planning, construction, modification, or removal of public works, facilities, or other structures, and the acquisition, use, or disposal of land or water resources. To be consistent with the CZMA, Indiana requires that any federal agency activity that affects Indiana's coastal zone be carried out in a manner that is "consistent to the maximum extent practicable" with state laws.

Table A in Section III of this chapter details those federal agency activities that the LMCP believes will require a consistency determination. The LMCP will monitor unlisted federal activities and will properly notify the appropriate federal agency when it discovers an unlisted activity requiring a consistency determination. Even so, the federal agency must at least provide the LMCP with a consistency determination for all development projects (e.g. construction) in the coastal zone, whether such project is listed or unlisted.

Federal consistency requirements for federal agency activities are detailed at 16 U.S.C. 1456(c)(1) and (2), and at 15 CFR Part 930 subpart C. There is no categorical exemption for any federal activity. However, under certain circumstances the President may exempt a specific federal activity. (see 16 U.S.C. 1456(c)(1)(B)).

### **Consistency Determination and Review Process**

The federal agency proposing an activity within or outside of Indiana's coastal zone decides if the proposed activity will affect any land or water use or natural resource of the coastal zone. All "development projects" (i.e. construction) within the coastal zone are construed as activities affecting the zone.

If the federal agency decides that the activity does affect Indiana's coastal zone, it prepares and submits to the LMCP a consistency determination at least 90 days before final approval of the activity. If the agency decides that the activity does not affect the zone, the agency may have to provide the state (at least 90 days prior to final approval of the activity) with a negative determination under 15 CFR 930.35.

A consistency determination for a federal agency activity affecting Indiana's coastal zone is an assertion by a federal agency that the activity will be conducted consistent with state laws to the maximum extent practicable. The words "maximum extent practicable" mean fully consistent, unless compliance is prohibited by existing law applicable to the federal agency's operations. The agency may also deviate from full consistency when unforeseen circumstances arising after approval of the Indiana coastal program present the agency with a substantial obstacle that prevents complete adherence to state laws.

A consistency determination must include a detailed description of the activity, its coastal zone effects, and comprehensive data and information sufficient to support such determination.

The LMCP coordinates the state's review of the consistency determination with the appropriate state agencies. The state has 60 days from receipt (plus appropriate extensions, if granted) to concur with or object to the federal agency's consistency determination. Agreement is presumed if the LMCP does not respond (or request an extension) within 60 days. If the LMCP disagrees with a consistency determination, it must describe how the proposed activity will be inconsistent and should describe any alternative measures that would allow the activity to proceed. If the federal agency has failed to provide sufficient information, the LMCP must describe the nature of the information required and its necessity.

The LMCP will provide public notice according to IC 4-21.5 and 15 CFR 930.42 after a consistency determination has been received, except in cases where earlier public notice on the consistency determination by the Federal agency or State agency provides public notice. Where possible, the LMCP will provide a joint public notice with the relevant federal agency. The public notice shall summarize the activity and announce the availability for public inspection of the consistency certification and accompanying public information and data. The public will be able to provide comment on whether the project is consistent with Indiana's state laws.

If there is a dispute between the federal agency and the LMCP regarding the consistency determination, either party may seek the mediation services of the Secretary of Commerce or the Office of Ocean and Coastal Resource Management (OCRM).

## **B. Federal License or Permit Actions**

Federal license or permit requirements are detailed at 16 U.S.C.1456(c)(3)(A), and at 15 CFR Part 930 Subpart D. An applicant for a federal license or permit must, in its application to the federal agency, certify that its proposed activity complies with and will be conducted in a manner consistent with the Indiana Lake Michigan Coastal Program. The consistency certification shall read as follows: "The proposed activity complies with Indiana's approved coastal management program and will be conducted in a manner consistent with such program." The LMCP, and therefore federal consistency requirements, are based on Indiana's existing state laws.

An applicant for a federal license or permit that affects Indiana's coastal zone should consult with the LMCP prior to submission of the consistency certification. Upon submission of the consistency certification, the applicant shall furnish the LMCP with data, including a detailed description of the activity, maps, and a brief assessment of probable effects to the coastal zone. The LMCP will coordinate with the appropriate state agency to review consistency.

Access to information contained in an application is governed by state law, IC 5-14-3 (sometimes called the "Access to Public Records Act"). An applicant may seek to have records excepted from the Access to Public Records Act to the extent the records are confidential, contain trade secrets, or are otherwise exempted from disclosure at IC 5-14-3-4. An applicant who is dissatisfied with a status certification by the LMCP, relating to public disclosure, may have the certification reviewed pursuant to the Indiana Administrative Orders and Procedures Act (AOPA).



## **Consistency Certification and Review Process**

For an activity listed in Table B in Section III of this chapter, applicants for federal licenses or permits must submit a consistency certification in their application to the federal agency, furnishing the LMCP a copy of such certification and data and information necessary to demonstrate consistency.

For an unlisted activity, an applicant is required to submit a consistency certification if: a) the LMCP decides that such activity will affect Indiana's coastal zone; b) the LMCP properly informs the federal agency, the applicant, and OCRM; and c) OCRM approves of the LMCP's decision. The federal agency and the applicant have 15 days from receipt of the LMCP's decision to provide comments to OCRM. In the event of a dispute between a federal agency and the LMCP regarding whether a listed or unlisted federal license or permit activity is subject to consistency review, either party may seek mediation by the Secretary of Commerce.

The consistency certification consists of a statement in a letter to the LMCP that states, "The proposed activity complies with Indiana's approved coastal management program and will be conducted in a manner consistent with such program." The applicant must also furnish the LMCP with a sufficient project description and data described at 15 CFR 930.58 to demonstrate consistency.

Following the LMCP's receipt of the consistency certification and the required data, it will provide public notice according to IC 4-21.5 and 15 CFR 930.61. Where possible, the LMCP will provide a joint public notice with the relevant federal agency. The public notice shall summarize the activity and announce the availability for public inspection of the consistency certification and accompanying public information and data.

If the consistency review will take over three months, it must notify the applicant and the federal agency. The LMCP will concur or object to the consistency certification within six months.

If the same activity requiring a federal license or permit also requires a state permit, the issuance of a permit by the state will include and constitute a consistency decision.

The state will evaluate project consistency based on applicable state laws as described in Chapter 5 of the LMCP. Consistency will only be required on activities that are subject to state laws. Please refer to the cross-reference tables in Chapter 5 for guidance on which activities are applicable to federal consistency. Early coordination with the LMCP is encouraged for projects affecting the Coastal Program Area.

If the LMCP concurs with the consistency certification, it will notify the federal agency and the applicant immediately. The agency is then free to either issue or deny the federal license or permit. In the latter case, the federal agency must immediately notify the state and the applicant. If the LMCP objects to the consistency certification, it must notify the applicant, the federal agency, and OCRM, and the federal agency must not issue the license or permit, unless the applicant successfully appeals to the Secretary of Commerce.

## **C. Federal Financial Assistance**

The requirements for federal financial assistance are detailed at 16 U.S.C. 1456(d), and at 15 CFR 930 Subpart F. This provision ensures that any unit of state or local government applying for federal financial aid for activities that affect the state's coastal zone receives such federal aid only when such activities are consistent with Indiana's laws (as described in Chapter 5: Existing Management Authorities).

Federal assistance is categorized in the Catalog of Federal Domestic Assistance, where it is grouped by agency and assigned a five-digit number. Table C reflects such grouping and numbering, and lists those activities which would potentially affect the coastal zone. The LMCP will coordinate these activities for consistency review, and will provide the list to federal agencies and units of State or local government empowered to undertake federally assisted activities that may affect the coastal zone.

### **Consistency Review Process**

A unit of state or local government, or any related public entity, submitting an application for federal financial assistance for an activity affecting Indiana's coastal zone must obtain the LMCP's consistency concurrence in order to receive such assistance. The applicant should submit the application for federal assistance to the LMCP.

The LMCP will conduct the consistency review for federal financial assistance. The LMCP will decide which of the applications are for proposed activities that would affect Indiana's coastal zone, and coordinate with the appropriate state agency for consistency review. In the event of a dispute between a federal agency and the LMCP regarding whether a federal assistance activity is subject to consistency review, either party may request mediation by the Secretary of Commerce.

The LMCP can either concur with or object to the application based on the consistency of proposed actions within the application. The LMCP will notify the applicant and the federal agency of its decision within 60 days of receipt of application for federal assistance. Objections will also be sent to OCRM.

If the LMCP determines that the proposed project is consistent with state laws, the federal agency may approve or deny the request for assistance. If the federal agency denies the request, it must immediately notify the applicant and the LMCP. If the LMCP objects to the proposed project, the federal agency shall not approve assistance for the project, unless the applicant successfully appeals to the Secretary of Commerce.

## **Section II: CONFLICT RESOLUTION, APPEAL, AND SECRETARIAL REVIEW**

### **Conflict Resolution**

In the event of a dispute between the federal agency and Indiana over whether the federal activity, federal license or permit, or federal financial assistance affects the coastal zone or whether a consistency determination for a federal activity was correctly made, either party may seek mediation by the Secretary of Commerce or through OCRM (15 CFR Subpart G). The responding party has the option of participating, but if it declines, it must indicate the basis for its refusal to participate. The Secretary of Commerce will attempt to encourage participation, but if unsuccessful will cease efforts to mediate. Judicial review is available to any party without having to exhaust the mediation process.

### **Appeal Process**

The applicant for a federal license or permit or for federal financial aid who has been subject to a consistency objection by the LMCP may appeal to the Secretary within 30 days of receipt of Indiana's objection. (15 CFR Subpart H). To appeal, the applicant should file a notice of appeal with the Secretary

of Commerce, accompanied by a statement in support of the applicant's position and supporting data. The applicant should also send copies of these documents to the LMCP and the federal agency involved.

If the Secretary finds that the proposed activity is consistent with the objectives or purposes of the Act, or is necessary in the interest of national security, the federal agency may issue the license or permit or grant the financial aid. This is called a Secretarial override. If the Secretary does not make either of these findings, the federal agency shall not approve the activity. A Secretarial override does not obviate the need for the applicant to obtain any permit or other authorization required by the state of Indiana.

### **Section III : Lists of Federal Activities Subject to Federal Consistency**

**Table A. Federal Agency Activities and Development Projects**

**Department of Defense- Secretary of the Army and the Army Corps of Engineers –**

33 USC 404-426, 33 USC 471-472, 33 USC 540-633, 33 USC 701, 16 USC 460d, 42 USC 1962d-5, 10 USC 2801, 33 USC 1251

- Constructing, maintaining and improving channels or subsurface tunnels
- Dredging, storing, testing, sampling, dewatering, and disposing of dredged material
- Selection of storage, dewatering, and disposal sites for dredged material
- Building, maintaining, and repairing breakwaters, jetties, barriers, harbors, piers, docks
- Placing pipes or pipelines on, over, or under the lake bottom
- Establishment of harbor lines
- Creation of permanent sand bypass systems
- Creating habitat areas, including wetlands and offshore islands, from dredged material
- Beach nourishment and replenishment activities, reinforcing dunes and beaches
- Creation of man-made dunes and other man-made land
- Road and roadbed construction activities
- Building and maintaining erosion control structures
- Constructing navigational works, and marking anchorage grounds
- Constructing and maintaining dams and reservoirs, and providing hydroelectric power
- Constructing and maintaining flood control works, i.e. floodwalls, levees, diversion channels
- Granting easements for rights-of-way for public roads on lands acquired by the United States for river and harbor and flood control improvements, 33 USC 558c
- Land acquisition or disposal, including sites for disposal of dredged material
- Ice management practices
- Cleanup activities in areas contaminated with hazardous waste, radioactive waste, toxic waste, active munitions, hazardous substances or materials, or other wastes or debris
- Design and management of construction for homes, schools, hospitals, day care centers, office buildings, airfields, warehouses, and training ranges for military and their families
- Purchase, management, and disposal of land for the Army and Air Force
- Providing engineering expertise to other federal agencies, state & local governments, and others
- Constructing, operating, and maintaining Army facilities
- Conducting projects that impact existing or planned research projects and contracts
- Coastal surveys, monitoring, aerial photos, Lidar, and coastal erosion mapping efforts
- Activities and other projects with the potential to impact coastal lands and waters
- Constructing, maintaining, and operating park and recreation facilities at water resource development projects

**Department of Defense- Air Force, Army, and Navy – 10 USC**

- Location, design, and acquisition of new or expanded defense installations (active or reserve status including associated housing, transportation, or other facilities)
- Improvements to military bases
- Base closures or realignments
- Military or Naval exercises
- Plans, procedures, and facilities for handling storage use zones
- Establishment of impact, compatibility, or restricted use zones
- Disposal of Defense property, including disposal and reuse plans for base closures
- Air Force, Army, or Navy manufacture, storage, transportation, treatment, or disposal of radioactive, hazardous, or other waste or hazardous substances, directly or by contractor
- Manufacture, transport, storage, or disposal of weapons, biological or nerve agents, nerve or mustard gas, napalm, explosives, nuclear power plant waste, etc.
- Causing or discovering the presence of nuclear powered vessels in the coastal zone or in other areas which could reasonably be expected to affect the coastal zone

**Department of Interior- National Park Service – 16 USC 1, 16 USC460u**

- Acquisitions of land and interest in land; granting rights-of-way
- Area and unit management
- Location, design, acquisition, construction, maintenance, and removal of facilities
- Removal of houses, including leaseback houses
- Entering into concession contracts, establishing and modifying concession facilities
- Activities as natural resources trustee in “Area of Concern”, Lake County, IN

**Department of Interior- U.S. Fish and Wildlife Service – 16 USC 742a**

- Management of National Wildlife Refuges
- Management of waterfowl production areas
- Construction or modification of hatcheries, refuge facilities, office buildings, residences, laboratories, recreation facilities, water-control structures, and special purpose structures
- Acquisition of lands, wetlands, and other suitable habitat for migratory birds, endangered species, and other wildlife; granting rights-of-way
- Fish habitat creation, maintenance, and management
- Construction of visitor facilities and environmental education centers
- Construction of roadways, dikes, and dams
- Construction of sewerage facilities for domestic and hatchery effluent needs
- Recovery plans under Endangered Species Act, 16 USC 1531
- Nuisance species (i.e. zebra mussel, lamprey) control measures
- Granting easements for shooting and fishing activities under 16 U.S.C 661
- Classification and leasing of land under 16 U.S.C. 666g
- Activities as natural resources trustee in “Area of Concern”, Lake County, IN

**Department of Interior- U.S. Geological Survey – 43 USC 31**

- Installation, operation, and maintenance of acoustic water velocity meters or other devices in waters of the coastal zone

**Department of Interior- Bureau of Land Management** - 43 USC 2

5 USCA Appx.1, Reorg. Plan 3 of 1946. IV

- Disposal and disposition of federal lands and structures, including lighthouses
- Acquisition of land or interest in land, construction of facilities

**General Services Administration** – 40 USC

- Acquisition, location, design, construction, development, management, and leasing (as lessor or lessee) of federal government property or buildings, leased or owned by federal government
- Disposition and disposal of federal surplus lands and structures

**Department of Transportation- U.S. Coast Guard** – 49 USC 108, 14 USC

- Location, design, construction, alteration, abandonment, or disposition of Coast Guard stations, bases, and lighthouses
- Location, placement, or removal of navigation devices which are not part of the routine operations under the Aids to Navigation program
- Expansion, abandonment, designation of anchorages, lighting areas, and shipping lanes
- Ice management practices and activities, including ice breaking
- Oil and hazardous material pollution response planning and response activities, and Area Contingency Plans developed under Section 311 of the Clean Water Act, 33 USC 1321, as amended by the Oil Pollution Control Act of 1990, 33 USC 2701
- Responses to the release of hazardous substances under CERCLA, 42 USC 9601
- Designation and management of Regulated Navigation Areas and Limited Access Areas identified in 33 CFR 165
- Designation of Security and Safety Zones and other activities under the Port and Waterways Safety Act, 33 USC 1221
- Construction, operation, maintaining, improving or expanding Vessel Traffic Services under the Port and Waterways Safety Act, 33 USC 1221
- Regulating the bulk transport by vessel of hazardous material or petroleum products

**Department of Transportation- Federal Aviation Administration** – 49 USC 106, 49 USC 40101, 49 USC 44501, 49 USC 44701, 49 USC 47501

- Location and design, installation, construction, operation, maintenance, quality assurance, testing, and demolition of airports and other aids to air navigation
- Development and implementation of programs to control aircraft noise and other environmental effects of civil aviation, and allocating use of airspace
- Procedures re transport of radioactive materials on passenger-carrying aircraft

**Department of Transportation- Surface Transportation Board** – 49 USC 10101

- Line transfers, leases, and trackage rights
- Line sales, including those to non-carriers
- Line constructions, including line crossings
- Design, construction, expansion, curtailment, or upgrading of railroad facilities or services, including bridges

- Removal of trackage; disposition of right-of-way
- Line abandonments, including Rails to Trails and Public Use Provision for Right-of-way
- Feeder Line Development Program

**Department of Transportation-Federal Highway Administration** – 49 USC 104, 49 USCS Appx 1653

- Highway, bridge, and causeway design, construction, maintenance, and repair
- Land acquisition
- Implementation of innovative or other technology affecting traffic control or flow
- Highway routing of hazardous materials

**Department of Transportation- Maritime Administration** – 49 USC 109, 40 USC 474, 46 USCS Appx 861, 46 USCS Appx 1101, 46 USC Appx 1601

- Port planning

**Department of Transportation- Federal Railroad Administration** 49 USC 103

- Orders dealing with dangers caused by unsafe rail transport of hazardous materials

**Department of Commerce- National Oceanic and Atmospheric Administration** - Reorganization Plan No.4 of 1970 at 5 USCS 903, 15 USC 1501, 33 USC 1251

- Placement of buoys, platforms, or other objects or structures in coastal waters
- Construction, installation, maintenance, or removal of lake level gauging stations or other structures

**Environmental Protection Agency** – 42 USC 6901, 42 USC 9601, 33 USC 1341, 42 USC 300h

- Activities conducted under CERCLA (Superfund), 42 USC 9601
- Activities conducted under Resource Conservation & Recovery Act, 42 USC 6901
- Sediment sampling and sediment testing
- Open disposal of dredged material
- Oil and hazardous material pollution response planning and response activities, and Area Contingency Plans developed under the Oil Pollution Control Act, 33 USC 1321

**Department of Energy- Federal Energy Regulatory Commission** – 42 USC 7171, 16 USC 796

- Delivery of oil or coal by ship
- Orders for furnishing of adequate service under the FPA, 16 USC 824f
- Licensee's exercise of eminent domain (as agent of the U.S.) under FPA, 16 USC 814
- Grant of right of eminent domain for right of way for natural gas pipeline under the Natural Gas Act, 15 USC 717f (h)

**Department of Justice- U.S. Marshals Service** – 28 USC 561, 28 USC 2001

- Disposition of property acquired by the Marshals Service

**Nuclear Regulatory Commission** - 42 USC 2011, 42 USC 5841

- The siting, construction and operation of nuclear generating stations, power plants, fuel storage, and processing centers
- Transportation of nuclear waste through the coastal zone or in any other area where such transport could reasonably be expected to affect the coastal zone

**Federal Emergency Management Agency** – 42 USC 4001, 42 USC 51

- Disaster-related activities (i.e. planning, mitigation activities, monitoring reconstruction) in the coastal zone or in any other area where such activities could be reasonably expected to affect the coastal zone

**Table B. Federal License and Permit Actions**

**Department of Defense- Secretary of the Army, and Army Corps of Engineers**

- Permits for construction of dams or dikes in or over navigable waters required under Section 9 of the Rivers and Harbors Act of 1899, 33 USC 401
- Permits for the construction of structures (i.e. piers, wharves, breakwaters, bulkheads, jetties, weirs, transmission lines, pipes, or pipelines) in, under, or over navigable waters required by Section 10 of the Rivers and Harbors Act of 1899, 33 USC 403
- Permits for excavating or dredging from navigable waters, or for the alteration or modification of the course, location, condition, or capacity of such waters, required by Section 10 of the Rivers and Harbors Act of 1899, 33 USC 403
- Permits for disposal of dredged or fill material into navigable waters required by Section 10 of the Rivers and Harbors Act of 1899, 33 USC 403
- Permits for the disposal of dredged or fill material into waters of the United States required by Section 404 of the Clean Water Act, 33 USC 1344
- Permits for the alteration or occupation of seawall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the U.S., or of any piece of plant used in the construction of such work, or of any material composing such work, required by Section 14 of the Rivers and Harbors Act of 1899, 33 USC 408
- Approval of plans for improvement made at private expense under USACE supervision pursuant to Section 1 of the Rivers and Harbors Act of 1902, 33 USC 565

**Department of Energy- Federal Energy Regulatory Commission** – 42 USC 7101

- Licenses, renewals, or amendments to licenses, or approvals for transfers of licenses or rights thereunder, for nonfederal hydroelectric projects and primary transmission lines under Sec. 3(11), 4(e), 8, and 15 of the Federal Power Act (FPA), 16 USC 796 (11), 797(e), 801, and 808, and under Sec. 405 of FPA, 16 USC 2701
- Granting exemptions from Federal Power Act (FPA) requirements, 16 USC 823a
- Applications for orders for interconnection of electric transmission facilities, and sales and exchanges of energy, under Section 202 of the FPA, 16 USC 824a
- Application for orders authorizing disposition, consolidation, or merger of facilities or any part thereof under Sec.203 of the FPA, 16 USC 824b
- Applications for physical connection orders under Section 210 of the FPA, 16 USC 824i
- Applications for transmission service orders under Section 211 of the FPA, 16 USC824j

- Regulation of transportation of natural gas, and the entities engaged in such, under Sec.1 (b) of the Natural Gas Act, 15 USC 717 (b)
- Orders for extension or improvement of natural gas transportation facilities, and orders to establish physical connection of transportation facilities with distributors under Sec. 7(a) of the Natural Gas Act (NGA), 15 USC 717f (a)
- Issuing certificates of public convenience and necessity for the construction and operation of interstate natural gas pipelines and pipeline facilities, and for the transportation of natural gas, under 7 (c) of the NGA, 15 USC 717 f (c)
- Issuing declaratory orders under the Administrative Procedure Act, 5 USC 554(e)
- Licensing of import and export of natural gas under Sec.3 of the NGA, 15 USC 717b
- Approval or denial of abandonment of natural gas facilities or service under Sec.7 (b) of the NGA, 15 USC 717f (b)
- Exemptions from orders prohibiting burning natural gas or petroleum products in certain situations, 15 USC 792

#### **Department of Transportation- Coast Guard**

- Approval of construction or modification of bridges, causeways, pipelines, or other structures over, on, or under navigable waters pursuant to Section 9 or 10 of the Rivers and Harbors Act, 33 USC 401, 403, and the Bridge Act, 33 USC 491
- Marine event permits issued under authority of 33 USC 1233, found at 33 CFR 100.15

#### **Environmental Protection Agency**

- National Pollutant Discharge Elimination System (NPDES) permits and other permits for federal installations discharges, sludge runoff, aquaculture permits and all other permits pursuant to Sections 401, 402, 405, and 318 of the Federal Water Pollution Control Act of 1972, 33 USC 1341, 1342, 1345, and 1328
- Permits pursuant to the Resource Conservation and Recovery Act (RCRA) of 1976, 42 USC 9601
- Permits pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 42 USC 6901
- Permits pursuant to the underground injection control program under Section 1424 of the Safe Drinking Water Act, 42 USC 300h \* Indiana has primacy for Class II injection wells
- Permits pursuant to the Clean Air Act of 1976, 42 USC 7401
- Permits pursuant to the Marine Protection, Research, and Sanctuaries Act, 16 USC 1431

#### **Department of Interior- U.S. Fish and Wildlife Service – 16 USC 742a**

- Endangered species permits pursuant to the Endangered Species Act, 16 USC 1531
- Permits pursuant to the Migratory Bird Treaty Act, 16 USC 703
- Permits to impound water and coordination activities under the Fish and Wildlife Coordination Act, 16 USC 661
- Permits and cooperative agreements for use of lands for grazing, timber harvest, farming, and concessions, and agreements with States for operation of Service management units
- Permits and easements for rights-of-way
- Permits for the import-export of regulated wildlife and plants, including interstate shipment of injurious wildlife
- Permits for the taking or banding of migratory birds, including falcons and eagles



**Department of Interior- National Park Service** – 16 USC 1

- Permits for rights-of way
- Permits for scientific-collecting purposes
- Permits for special use of real property (including assets and resources or utilities)
- Agreements to permit concession operations

**Nuclear Regulatory Commission**

- Licensing, certification, and determination of the siting, construction, and operation of nuclear generating stations, fuel storage, and processing centers pursuant to the Atomic Energy Act of 1954, 42 USC 2011, Title II of the Energy Reorganization Act of 1974, 42 USC 5841, and the National Environmental Policy Act of 1974, 42 USC 4321

**Department of Transportation- Federal Aviation Administration** – 49 USC 106, 49 USC 40101, 49 USC 44501, 49 USC 44701, 49 USC 47501,

- Permits, licenses, certifications, and other approvals for construction, operation, or alteration of airports
- Allocating use of airspace or otherwise permitting changes in air traffic resulting in increases of noise pollution over sensitive areas of the coastal zone

**Department of Transportation- Surface Transportation Board** – 49 USC 10101

- Permission to abandon railway lines (to the extent that the abandonment involves removal of trackage and disposition of right-of-way)
- Permission to construct, expand, alter, or abandon railroads
- Issuing certificates for water carrier authority
- Granting exemptions from rail regulation
- Granting exemptions from motor carrier regulation
- Rail regulation- emergency service orders
- Rail regulation- competitive access
- Motor carrier regulation- Bus company through-route requirements
- Intermodal regulation- Rail-Water connections for non-contiguous domestic trade

**Department of Transportation- Federal Highway Administration** 49 USC 104, 49 Appx. USCS 1653

- Issuing safety permits regarding highway routing of hazardous materials

**Department of Transportation- Research and Special Programs Administration** 49 USC 5101

- Issuing, modifying, and terminating approvals under the Hazardous Materials Transportation Law (**hazmat**)
- Issuing, renewing, modifying, and terminating exemptions under **hazmat**
- Administrative determinations of whether state or local requirements are preempted under **hazmat** or are issued a waiver of preemption

## **Table C. Federal Assistance**

Numbers refer to the Catalog of Federal Domestic Assistance Programs. Program descriptions can be found at the Catalog's website at [www.gsa.gov/fdac](http://www.gsa.gov/fdac)

### **Department of Agriculture**

**10.760 Water and Waste Disposal Systems for Rural Communities** ( Consolidated Farm and Rural Development Act, as amended, Section 306, 7 USC 1926.)

**10.766 Community Facilities Loans and Grants** (Consolidated Farm and Rural Development Act, as amended, Section 306, 7 U.S.C. 1926.)

**10.769 Rural Development Grants** (Consolidated Farm and Rural Development Act, Section 310B, as amended, 7 U.S.C. 1932)

**10.770 Water and Waste Disposal Loans and Grants** (Section 306C) (Consolidated Farm and Rural Development Act, Section 306C, 7 USC 1926(c), as amended; Food, Agriculture, Conservation, and Trade Act of 1990, Title XXIII, Public Law 101-624)

**10.854 Rural Economic Development Loans and Grants** ( Rural Electrification Act of 1936, as amended, Title III, 7 U.S.C. 930-940c.)

**10.901 Resource Conservation and Development** ( Public Law 97-98, 95 Stat. 1213.)

**10.904 Watershed Protection and Flood Prevention** ( Watershed Protection and Flood Prevention Act, as amended, 16 U.S.C. 1001, 33 U.S.C. 701b )

**10.906 Watershed Surveys and Planning** ( Watershed Protection and Flood Prevention Act, as amended, 16 U.S.C. 1001, 33 U.S.C. 701b )

### **Department of Commerce**

**11.300 Economic Development- Grants for Public Works and Infrastructure Development** (Public Works and Economic Development Act of 1965, as amended, 42 USC 3131, 3132, 3135, 3171)

**11.304 Economic Development- Public Works Impact Program** (Public Works and Economic Development Act of 1965, as amended, 42 U.S.C. 3131, 3135)

**11.405 Anadromous Fish Conservation Act Program** (Anadromous Fish Conservation Act of 1965, as amended, 16 U.S.C. 757a through f; Reorganization Plan No. 4, 1970)

**11.407 Interjurisdictional Fisheries Act of 1986** (Interjurisdictional Fisheries Act of 1986, as amended, 16 U.S.C. 4106)

**11.427 Fisheries Development and Utilization Research & Development Grants & Coop Agreements** (Saltonstall-Kennedy Act, as amended, 15 U.S.C. 713c-3(c))

**11.463 Habitat Conservation** (Fish and Wildlife Coordination Act of 1956, 16 USC 661; Coastal Wetlands Planning, Protection, and Restoration Act, 16 USC 3951; 33 USC 1901; Department of Commerce Appropriation Act of 1995)

### **Department of Defense**

**12.100 Aquatic Plant Control**, 33 USC 610

**12.101 Beach Erosion Control Projects** (Rivers and Harbors Act of 1962, Section 103, as amended, 33 U.S.C. 426e-g)

**12.104 Flood Plain Management Services** (Flood Control Act of 1960, Section 206, as amended, 33 U.S.C. 709a)

**12.105 Protection of Essential Highways, Highway Bridge Approaches, and Public Works** (Flood Control Act of 1946, Section 14, 33 U.S.C. 701r, as amended)

**12.106 Flood Control Projects** (Flood Control Act of 1948, Section 205, as amended, 33 U.S.C. 701s)

**12.107 Navigation Projects** (Rivers and Harbors Act of 1960, Section 107, as amended, 33 U.S.C. 577)

- 12.108 Snagging and Clearing for Flood Control** (Flood Control Act of 1937, Section 2, as amended, 33 U.S.C. 701g)
- 12.109 Protecting, Clearing, and Straightening Channels** (Rivers and Harbors Act of 1945, Section 3, as amended, 33 U.S.C. 603a)
- 12.110 Planning Assistance to States** (Water Resources Development Act of 1974, Section 22, as amended, 42 U.S.C. 1962d-16)
- 12.610 Joint Land Use Studies** (Defense Authorization Act, 10 U.S.C. 2391)
- 12.613 Growth Management Planning Assistance** (Defense Authorization Act, 10 USC 2391)

**Department of Housing and Urban Development** (Sections refer to the National Housing Act)

- 14.218 Community Development Block Grants/ Entitlement Grants** (Housing and Community Development Act of 1974, Title I, as amended, 42 U.S.C. 5301-5317)
- 14.219 Community Development Block Grants/ Small Cities Grants** (Housing and Community Development Act of 1974, Title I, as amended, 42 U.S.C. 5301-5317)
- 14.246 Community Development Block Grants/ Economic Development Initiative** (Housing and Community Development Act of 1974, Sec.108(q), as amended, 42 USC 5308(q))
- 14.866 Revitalization of Severely Distressed Public Housing** (HUD Appropriations Act of 1993, Public Law 102-389)

**Department of the Interior**

- 15.605 Sport Fish Restoration** (Federal Aid in Sportfish Restoration Act of 1950, as amended, 16 U.S.C. 777-777k)
- 15.611 Wildlife Restoration** (Federal Aid in Wildlife Restoration Act of 1937, as amended, 16 U.S.C. 669-669b, 669-669I)
- 15.614 Coastal Wetlands Planning, Protection, and Restoration Act** (Coastal Wetlands Planning, Protection, and Restoration Act, Section 305, Title III, 16 U.S.C. 3954)
- 15.615 Cooperative Endangered Species Conservation Fund** (Endangered Species Act of 1973, as amended, 16 USC 1531)
- 15.616 Clean Vessel Act Pumpout Grant Program** (Clean Vessel Act of 1992, Section 5604, 33 U.S.C. 1322, note, and 16 U.S.C. 777c and 777g)
- 15.617 Wildlife Conservation and Appreciation** (Partnerships for Wildlife Act, Title VII, Sec.7105(g), 16 USC 3744(g))
- 15.904 Historic Preservation Fund Grants-in-Aid** (National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470)
- 15.916 Outdoor Recreation- Acquisition, Development, and Planning** (16 U.S.C. 1-4; Land and Water Conservation Fund Act of 1965, 16 U.S.C. 460d, 460l-4 to 460l-11, as amended)
- 15.919 Urban Park and Recreation Recovery Program** (Urban Park and Recreation Recovery Act of 1978, Title 1, 16 USC 2501-2514)

**Department of Transportation**

- 20.005 Boating Safety Financial Assistance**, 46 U.S.C. 13101-13110
- 20.006 State Access to the Oil Spill Liability Trust Fund** (Oil Pollution Act of 1990, Sec.1012(d)(1), 33 USC 2712(d)(1))
- 20.007 Bridge Alteration** (River and Harbor Act of 1899, Section 18, 33 U.S.C. 502; Bridge Act of 1906, Sections 4 and 5, 33 U.S.C. 494-5; Act of June 21, 1940, as amended; Truman-Hobbs Act, 33 U.S.C. 511-23)
- 20.106 Airport Improvement Program** (Public Law 103-272)
- 20.205 Highway Planning and Construction**, 23 U.S.C.

**20.219 Recreational Trails Program** (Transportation Equity Act for the 21st Century, Sec. 1101(a)(7); 23 U.S.C. 104(h); 23 U.S.C. 206)

**20.500 Federal Transit Capital Improvement Grants**, 49 U.S.C.5309

**20.509 Public Transportation for Nonurbanized Areas**, 49 U.S.C. 5311

**20.514 Transit Planning and Research**, 49 USC 5314(a)

**20.600 State and Community Highway Safety** (Highway Safety Act of 1966, as amended, 23 USC 401)

**20.801 Development and Promotion of Ports and Intermodal Transportation** (Merchant Marine Act of 1920, Section 8, as amended, 46 USC 867; Merchant Marine Act of 1936, Sections 209 and 212, as amended, 46 USC 1119, 1122; Section 2, Public Law 96-371; Defense Production Act of 1950, as amended, 50 Apx. USC 2061, 2062, 2071-2073, 2081, 2091-2094, 2101-2110, 2121-2123, 2131-2135, 2151-2166; Executive Order 10480; Executive Order 12656)

#### **Environmental Protection Agency (EPA)**

**66.001 Air Pollution Control Program Support** (Clean Air Act of 1977, Section 105, as amended, Clean Air Act Amendments of 1990, 42 U.S.C. 7405)

**66.419 Water Pollution Control- State and Interstate Program Support** (Clean Water Act, Section 106, as amended, 33 U.S.C. 1256)

**66.432 State Public Water System Supervision** (Public Health Service Act, as amended, 42 U.S.C. 201; Safe Drinking Water Act, as amended, 42 U.S.C. 300f )

**66.433 State Underground Water Source Protection** (Safe Drinking Water Act , as amended, 42 U.S.C. 300f)

**66.454 Water Quality Management Planning** (Clean Water Act, Sections 205(j) and 604(b), as amended, Water Quality Act of 1987, 33 U.S.C. 1285(j) and 33 U.S.C. 1384(b))

**66.456 National Estuary Program** (Clean Water Act, Section 320, as amended, 33 U.S.C. 1330)

**66.458 Capitalization Grants for State Revolving Funds** (Clean Water Act, as amended, Water Quality Act of 1987, Sections 601-607, 205(m), 33 U.S.C. 1381-1387, 33 U.S.C. 1285 (m))

**66.460 Non-Point Source Implementation Grants** (Clean Water Act, Section 319(h), 33 USC 1329(h))

**66.461 Wetlands Protection- Development Grants** (Clean Water Act, Section 104(b)(3), as amended, 33 USC 1254(b)(3))

**66.463 National Pollutant Discharge Elimination System (NPDES) Related State Program Grants** (Clean Water Act, Section 104(b)(3), as amended, 33 USC 1254(b)(3))

**66.468 Capitalization Grants for Drinking Water State Revolving Fund** (Safe Drinking Water Act Amendments of 1996, Section 130, 42 U.S.C. 300 j-12)

**66.469 Great Lakes Program** (Clean Water Act, Sections 104 and 118, 33 USC 1254, 33 USC 1268)

**66.700 Consolidated Pesticide Enforcement Cooperative Agreements** (Federal Insecticide, Fungicide, and Rodenticide Act, Section 23, as amended, 7 U.S.C. 136u )

**66.701 Toxic Substances Compliance Monitoring Cooperative Agreements** (Toxic Substances Control Act, Sections 28 and 404(g), as amended, 15 U.S.C.2627 and 2684(g))

**66.708 Pollution Prevention Grants Program** (Pollution Prevention Act of 1990, Section 6605, 42 U.S.C. 13104)

**66.801 Hazardous Waste Management State Program Support** (Solid Waste Disposal Act, Section 3011, as amended, Resource Conservation and Recovery Act (RCRA) of 1976, 42 U.S.C. 6931)

**66.802 Superfund State Site-Specific Cooperative Agreements** (Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, Section 104, as amended, Superfund Amendments and Reauthorization Act (SARA) of 1986, as amended, 42 U.S.C. 9604)

**66.804 State Underground Storage Tanks Program** (Solid Waste Disposal Act, Section 2007(f)(2), as amended, and Section 8001(a); Resource Conservation and Recovery Act (RCRA) of 1976, as amended, Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. 6901 et seq.)

**66.805 Leaking Underground Storage Tank Trust Fund Program** (Solid Waste Disposal Act, Section 9003(h)(7), as amended; Section 8001(a); Resource Conservation and Recovery Act (RCRA) of 1976, as

amended, 42 U.S.C. 6901 et seq.; Superfund Amendments and Reauthorization Act (SARA) of 1986, as amended, 42 U.S.C. 9601 et seq.)

**66.807 Superfund Innovative Technology Evaluation Program (SITE)** (Comprehensive Environmental Response, Compensation, & Liability Act (CERCLA) of 1980, Sec 311(b), as amended, Superfund Amendments Reauthorization Act of 1986, as amended, 42 USC 9660(b))

**66.808 Solid Waste Management Assistance** (Solid Waste Disposal Act, Section 8001, as amended, Resource Conservation and Recovery Act (RCRA) of 1976, as amended, 42 U.S.C. 6981)

**66.809 Superfund State Core Program Cooperative Agreements** (CERCLA, as amd., 42 USC 9601)

**66.810 CEPP Technical Assistance Grants Program** (Clean Air Act, Secs.103(b)(3),112(L)(4), 42 USC 7403(b)(3), 7412(L)(4); Toxic Substances Control Act, Secs.10(a),28(d), 15 USC 2609(a), 2627(d))

### **Department of Energy (DOE)**

**81.041 State Energy Program** (Energy Policy and Conservation Act, Title III, Sections 361-366, Part C, 42 U.S.C. 6321-6326; Dept. of Energy Organization Act of 1977, as amended, 42 U.S.C. 7101; National Energy Conservation Policy Act of 1978, Public Law 95-619, Public Law 101-440; Balanced Budget Down Payment Act II of 1996, Public Law 104-134)

### **Federal Emergency Management Agency (FEMA)**

**83.505 State Disaster Preparedness Grants**

**83.534 Emergency Management- State and Local Assistance** (Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, Stafford Act, Title VI, Sections 611 and 613, as amended, 42 U.S.C.5196 and 5196b)

**83.536 Flood Mitigation Assistance** (National Flood Insurance Reform Act of 1994, Title V, Sections 553 and 554, 42 U.S.C. 4104c, 4104d, 4017)

### **Department of Health and Human Services (HHS)**

**93.887 Project Grants for Renovation or Construction of Non-Acute Health Care Facilities**  
(Public Health Service Act, Section 1610 (b), 42 USC 300r (b))

## Chapter 12: Uses Of Regional And National Benefit

### Uses Of Regional Benefit

The Coastal Zone Management Act, at 16 USC 1455 (d)(12), provides that before approving a program submitted by a coastal state, the Secretary of Commerce shall find that the program contains a method of assuring that local land use and water use regulations within the program boundaries do not unreasonably restrict or exclude land uses and water uses of regional benefit". (see also 15 CFR 923.12)

In addition, Section 306(d)(13) of the CZMA provides that a state must provide for "(A) the inventory and designation of areas that contain one or more coastal resources of national significance; and (B) specific and enforceable standards to protect such resources."

The Lake Michigan Coastal Program (LMCP) defines uses of regional benefit as those land and water uses that:

- provide or serve an environmental, economic, social, cultural, or other regional or national benefit, need, or value, i.e. regional, as opposed to local;
- directly and significantly affect the land or waters of the coastal area; and
- serve or affect more than a single unit of local government.

Of direct relevance to the issue of assuring that local ordinances/regulations do not restrict uses of regional benefit is Indiana Code (IC) 36-1-3-8(a)(7), which provides that local governments do not have the power to regulate conduct that is regulated by a state agency, except as expressly granted by statute. Also, IC 36-1-3-5 prohibits local entities from exercising a power that contravenes the Indiana Constitution or a state statute or that has been expressly granted to another entity. The following are specific uses of regional benefit for Indiana's Coastal Program Area:

#### **Siting of energy generation facilities**

*(power plants)*

Energy facilities are sited under the regulation and direction of the Indiana Utility Regulatory Commission (IURC). Before a public utility can begin construction of a new electricity generating facility, IC 8-1-8.5 requires the utility to obtain a certificate of convenience and necessity from the IURC. This certificate will only be issued after the IURC holds a public hearing and considers that the public convenience and necessity requires such a project based on factors such as long range planning needs, costs, and consistency with approved plans.

The IURC is responsible for the analysis of long range needs for electricity generating facilities, and looks to national, regional, state, and local interests in making such a determination. In order to estimate the probable future growth of electricity use, the IURC has established, as required by law, a permanent forecasting group located at Purdue University. This forecasting group is required to develop and keep current, a methodology for forecasting long range needs.<sup>1</sup> Each year, the IURC must submit to the Governor and the legislature a report of its analysis and plan.<sup>2</sup>

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<sup>1</sup> IC 8-1-8.5-3.5

<sup>2</sup> IC 8-1-8.5-3(h)

In addition, utilities are required to prepare a biennial integrated resource plan, which must consider state and federal energy policies, and state and federal environmental policies.<sup>3</sup> An integrated resource plan assesses a variety of demand-side and supply-side resources to cost effectively meet the public electricity service needs. The plan can also include public participation.

### **Recreational Facilities and Activities**

*(parks, forests, trails, boating, fishing, swimming)*

IC 14-19-1 authorizes the DNR to purchase land for the development of a state park or similar scenic area, subject to the approval of the Governor. Indiana Dunes State Park, along the Lake Michigan shoreline, is an example of a state park created by purchase. The State of Indiana may also acquire land for parks and scenic areas through its eminent domain power. Additionally, IC 14-19-2 authorizes DNR to develop "small" state parks (500 acres or less) for recreational or cultural activities by the public. IC 14-31-1 provides for nature preserves to maintain habitats for plant and animal species and biotic communities. Although the state, local government, or even private parties may own these, their dedication as nature preserves is only effective upon the approval of DNR.

Indiana's forests are of regional and statewide importance. Indiana's Forest Legacy Program protects environmentally important forests by purchasing development rights in perpetuity. A portion of LaPorte and Porter Counties has been identified as a Forest Legacy Area, to protect the diminishing northwest morainal type forest. Recreational trails are also an important regional resource. Indiana has a trails plan, developed by DNR, with which the state Transportation Corridor Planning Board's decision to approve or disapprove priorities for future uses of abandoned rights-of-way should be consistent.<sup>4</sup>

In Indiana, boating operations are governed primarily by state law, IC 14-15, although federal law also applies to navigable waters. State authority covers activities involving speed limits, water skiing, equipment operation, racing, safety, accidents, abandoned watercraft, and sewage disposal. Federal law controls the use of marine sanitation devices on Lake Michigan and its navigable tributaries.<sup>5</sup> Erecting a marina or other permanent structure in any navigable waterway, including Lake Michigan, requires a permit from DNR under IC 14-29-1-8 and marinas must satisfy the requirements of 312 IAC 6-4 for marina licensing (existing marinas must also be licensed under this rule). If a permit for erecting a structure in a floodway under IC 14-28-1 is also required, only one permit for erecting a structure in a floodway under IC 14-28-1 will be issued, but it will incorporate the requirements of IC-29-1-8. The NRC addresses Marina pumpout stations. The state also uses its funding power to provide citizen access to marinas on Lake Michigan.

Fishing is managed by state law.<sup>6</sup> Specifically, DNR is directed to regulate commercial fishing in Lake Michigan to protect the fisheries resource for commercial and sport fishing, as well as all users. Rules are established to determine the types of nets that may be used and the quantity of fish that may be taken. Other restrictions may be imposed by the NRC if considered necessary to protect the fishing resource in Lake Michigan. For example, gill nets are prohibited.<sup>7</sup> DNR is authorized to adopt rules for the safe operation of watercraft to protect swimming and other water activities.<sup>8</sup> Also, beach nourishment activity is encouraged by state rule to reinforce beaches for public benefit.<sup>9</sup>

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<sup>3</sup> 170 IAC 4-7

<sup>4</sup> IC 8-4.5-2

<sup>5</sup> see Sec 312 of the Clean Water Act (CWA), 33 USC 1322, and U.S.Coast Guard regs, 33 CFR 159

<sup>6</sup> IC 14-22

<sup>7</sup> IC 14-22-14 and 312 IAC 9-8

<sup>8</sup> IC 14-15-7

<sup>9</sup> 312 IAC 6-5-8

## **Regulation of Solid Waste, Hazardous Waste, and Wastewater**

State law has primacy in this area. IC 16-19-3-4 empowers the Indiana State Board of Health (ISBH) to adopt rules to protect the public health. One example is that sewage disposal through commercial and residential on-site sewage disposal systems must comply with rules adopted by the ISBH.<sup>10</sup> The Water Pollution Control Board (WPCB), which works closely with the Indiana Department of Environmental Management (IDEM), is empowered by IC 13-18 to adopt rules regarding water quality. The WPCB regulates wastewater treatment facilities, industrial wastewater pretreatment programs, land application of sludge and wastewater, and public water supply. Also, the WPCB adopts rules needed to implement the federal Clean Water Act (CWA) and Safe Drinking Water Act (SDWA). A variety of discharges are subject to NPDES permitting, implemented by IDEM. Examples include industrial and municipal discharges and discharges from confined animal feeding operations (CAFOs).<sup>11</sup> IDEM and ISDH regulate construction of wetlands for wastewater treatment.

Within IDEM, the Office of Solid and Hazardous Waste Management (OSHWM) is primarily responsible for insuring that Indiana's solid and hazardous wastes are handled and disposed of in a proper manner, including those wastes managed by the federal hazardous waste law, the Resource Conservation and Recovery Act (RCRA). IDEM also administers CERCLA (the federal Superfund law). The Solid Waste Management Board (SWMB) adopts rules for Hazardous Waste<sup>12</sup>, PCB waste<sup>13</sup>, Underground Storage Tanks<sup>14</sup>, Solid Waste Land Disposal Facilities<sup>15</sup>, Solid Waste Processing Facilities<sup>16</sup>, and Used Oil<sup>17</sup>. A landmark Indiana case, Triple G Landfills v Board of Commissioners of Fountain County, S.D. Ind., 774 F.Supp. 528, affirmed 977 F 2d 287, held that a county cannot adopt an ordinance governing the siting of sanitary landfills because this activity is regulated by IDEM.

## **Transportation**

*(highways, railroads, airports, ports)*

The INDOT is responsible for:

1) the identification, development, coordination, and implementation of the state's transportation policies; 2) the construction and maintenance of state highways and the Indiana Toll Road, and 3) the administration of programs pertaining to railroads, rail preservation, aeronautics, airports, and the aviation development program. InDOT performs long-range planning to assure the orderly development and maintenance of an efficient statewide system of transportation.<sup>18</sup>

## **Unique Natural Resources**

*(wetlands, dunes, floodways, wildlife, natural areas)*

IC 14-28-1 prohibits all new development (housing) in a floodway, and requires a permit from the DNR for erecting other structures, or making a deposit, obstruction, or excavation in a floodway. The permit will only be issued "if in the opinion of the director (of DNR) the applicant has clearly proven that the structure, deposit, obstruction, or excavation will not do any of the following: 1) adversely affect the efficiency of or unduly restrict the capacity of the floodway; 2) constitute an unreasonable hazard to the

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<sup>10</sup> 410 IAC 6-8.2

<sup>11</sup> IC 13-18-10; IC 13-11-2-40; 327 IAC 5-4-3

<sup>12</sup> 329 IAC 3.1

<sup>13</sup> 329 IAC 4

<sup>14</sup> 329 IAC 9

<sup>15</sup> 329 IAC 10

<sup>16</sup> 329 IAC 11

<sup>17</sup> 329 IAC 13

<sup>18</sup> IC 8-23



safety of life or property; 3) result in unreasonably detrimental effects upon fish, wildlife, or botanical resources."<sup>19</sup>

Any project or activity resulting in filling in any "waters of the United States" (including wetlands) requires a 404 permit<sup>20</sup> from the U.S. Army Corps of Engineers (ACOE) and a 401 water quality certification<sup>21</sup> (or a waiver) from IDEM. If the fill is placed in navigable waters, a Section 10 permit<sup>22</sup> from the ACOE is also required. The 401 certification will only be issued if the project will not violate the narrative standards of Indiana's water quality rules for the Great Lakes system.<sup>23</sup> Also, IDEM may require certain conditions that become a part of the federal license or permit. Conditions can include minimization of impacts, compensatory mitigation for wetland impacts, establishment of buffer zones around water bodies, prohibition on work during certain time periods, storm water and erosion control measures, conservation easement, and additional monitoring or water quality studies.

IC 14-29-1-8 provides that no one may erect a permanent structure in navigable waters (including Lake Michigan) without a permit from the DNR, and the permit shall be issued if the issuance "will not do any of the following: 1) unreasonably impair the navigability of the waterway; 2) cause significant harm to the environment; 3) pose an unreasonable hazard to life or property." Also, permit conditions can be written to provide for environmental protection. Critical portions of the natural areas along the Indiana coastline of Lake Michigan are preserved within Indiana Dunes State Park and Indiana Dunes National Lakeshore.

The DNR is designated to protect and properly manage the fish and wildlife resources of Indiana.<sup>24</sup> No one may take, chase, or possess a wild animal, except as authorized by state statute or by a rule adopted by the NRC.<sup>25</sup>

The NRC may use the power of eminent domain to acquire land to protect and propagate game, fish, and birds.<sup>26</sup> Regarding endangered species, no one may take, possess, transport, export, process, sell, or ship a species listed as endangered in Indiana, IC 14-22-34, or listed by the United States as endangered under 50 CFR 17.11. The NRC lists rare and endangered insects and plants in a document that has been incorporated into certain state rules.<sup>27</sup>

### **Public Water Supply**

IDEM administers the federal Clean Water Act (CWA) and Safe Drinking Water Act. The state WPCB adopts rules to implement the act. Notable among these rules are the water quality rules for the Great Lakes system.<sup>28</sup> As held in another landmark Indiana case, IDEM has been designated the water pollution agency for Indiana for all purposes of the CWA, and a town is prohibited from regulating conduct that is regulated by a state agency. Town of Merrillville v Merrillville Conservancy District, 1995 Ind. App., 649 NE2d 645, 653.

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<sup>19</sup> IC 14-28-1-22

<sup>20</sup> Sec 404 of the CWA, 33 USC 1344

<sup>21</sup> Sec 401 of the CWA, 33 USC 1341

<sup>22</sup> Sec 10 of the Rivers and Harbors Act, 33 USC 403

<sup>23</sup> 327 IAC 2-1.5

<sup>24</sup> IC 14-22-1

<sup>25</sup> IC 14-22-6

<sup>26</sup> IC 14-22-3

<sup>27</sup> 310 IAC 6-1-19

<sup>28</sup> 327 IAC 2-1.5

Water consumption issues are decided with reference to state, rather than local, law. Indiana has adopted the "reasonable-beneficial use" doctrine from the Model Water Code.<sup>29</sup> Significant water withdrawal facilities must register and report water use to the NRC through DNR.<sup>30</sup> Conflicts over groundwater use are addressed by state statute.<sup>31</sup> Also, IC 14-25-5 and various chapters under IC 14-26 address withdrawals of water from surface waters.

### **Unique Historic and Cultural Areas**

*(historic sites, archeological sites, shipwrecks)*

IC 14-21-1-18 provides that a site listed on the National Register of Historic Places, on the State Register, or an historic site located on land owned by the State of Indiana cannot be altered, demolished, or removed by a project funded in whole or in part by the state unless the state Historic Preservation Review Board gives its approval. Local governments that receive federal funds for projects that might affect certain historic sites must submit such projects for review and comment by DNR.

State statute addresses how lands can be developed if such lands include human remains buried before 1939 or objects made or shaped by human workmanship before 1816. A permit from DNR is generally required to continue ground disturbance.<sup>32</sup> DNR also exercises authority over shipwrecks to which title has been given up by the owner. No one may remove, disturb, or destroy an abandoned shipwreck without a permit from DNR.<sup>33</sup>

### **Agriculture**

IC 34-19-1-4 protects agricultural operations that have been in operation for more than one year from lawsuits for being a "nuisance", if, among other things, the operation would not have been a nuisance when it first began. The Indiana legislature introduces this statute by a declaration "that it is the policy of this state to conserve, protect, and encourage the development and improvement of its agricultural land for the production of food and other agricultural products." Indiana case law protects farms from being forced to discontinue operations due to zoning for encroaching residential neighborhoods. The legal principle of "nonconforming uses" allows uses in existence at the time of enactment of a zoning ordinance to continue, that is they need not conform to the new zoning ordinance. Lutz v New Albany City Planning Commission, 101 NE 2d 187 (1951)

## **Coastal Resources of National Significance**

The National Coastal Zone Management (CZM) Program is a voluntary partnership between the Federal government and U.S. coastal states and territories authorized by Coastal Zone Management Act of 1972 to among other things:

Preserve, protect, develop, and where possible, restore and enhance the resources of the Nation's coastal zone for this and succeeding generations; and encourage and assist the states to exercise effectively their responsibilities in the coastal zone to achieve wise use of land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development.

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<sup>29</sup> IC 14-25

<sup>30</sup> IC 14-25-7 and 14-25-1

<sup>31</sup> IC 14-25-4

<sup>32</sup> IC 14-21-1 and 310 IAC 20-2-3

<sup>33</sup> 312 IAC 6-3

Based on this mission, The LMCP defines coastal resources of national significance as resources with significant ecological, cultural, historic, or esthetic values.

Indiana has long worked to inventory areas containing natural resources of national significance for their ecological values. The Indiana Natural Heritage Data Center (INHDC) part of an international network of Heritage Programs, maintains a database of endangered, threatened and rare species, high quality natural communities and significant natural areas. INHDC, created in 1978 through a cooperative partnership between the State of Indiana and The Nature Conservancy, has a mission to objectively and systematically track natural resources so that decisions can be made based on sound data; decisions that will lead to conserving the full array of life in the most efficient manner possible. The information is used by consultants, citizens, all levels of government, private conservation groups, corporations, and scientists; but always maintaining an awareness of the sensitivity of the data.

Originally starting with plants, vertebrates, and natural communities, the INHDC is expanding coverage in more difficult groups, especially invertebrates. Today, amateur naturalists, consultants, university and government scientists, and others provide new data. The DNR Nongame and Endangered Species Program in particular adds considerable data by funding mussel and fish surveys, leading the breeding bird atlas project, and conducting their own surveys.

Having obvious spatial components, the data lends itself easily to GIS mapping. The INHDC can provide information on natural areas and conservation lands by U.S.G.S quadrangle map, county, watershed, and congressional district among others. The INHDC can provide the information in other electronic formats as well.

In addition to inventories of nationally significant natural resources, the DNR also inventories resources of national significance for their cultural, historic, and esthetic values. The Indiana Historic Sites and Structures Inventory has been a continuing program of the State's Division of Historic Preservation and Archaeology since 1975. This inventory identifies and records all potentially important historic buildings, bridges, sites, and other items on inventory forms and computer database. In addition, the Division of Historic Preservation and Archaeology added a new database and survey of historic bridges in 1987 that combines the records from other state and local inventories. Engineering landmarks, such as iron, timber, historic masonry bridges are being identified, recorded, and cataloged into the Historic Bridge Survey and Database Program.

A similar program exists for archaeological resources. The DNR Division of Historic Preservation and Archaeology is the central repository for archaeological records and initiates a state-wide inventory. In 1998, the coastal region had over 1,336 archaeological sites. However, each year, new sites are recorded and logged into the Division's archaeological survey files.

In addition to these on-going inventories, the LMCP initiated an inventory of wetlands in the coastal region as part of its program development process. In 1979, the DNR selected and studied 45 wetland areas within the Lake Michigan watershed. The study evaluated wetlands greater than 25 acres in size or clusters of smaller wetlands if they totaled 25 acres or more in one square mile. The wetlands were field inspected and ranked for priority based on size, type, plant and animal diversity, fisheries value, and adjacent land use. In 1996, the top 25 priority sites from this study were revisited. The purpose of the reevaluation was to determine whether the wetlands had changed in size, cover type, or context. The priority wetland were found to be still relatively intact. However, the context had changed from a rural to an urban surrounding land use. In addition, succession to a more woody type of cover had occurred. These inventories provided the LMCP with data regarding a resource of coastal significance, wetlands, that will provide benchmarks for future inventories and protection efforts.

In addition to maintaining partnerships with Federal agencies responsible for the management of national resources, such as the U.S. Fish and Wildlife Service, and the National Park Service, Indiana has state laws to protect nationally significant resources. These enforceable policies to protect nationally significant resources are discussed in detail in Chapter 5: Existing Management Authorities and briefly above.

## Chapter 13: Energy Facility Planning Process

The following chapter identifies energy facilities in Indiana's coastal area, outlines existing state requirements for the siting of such facilities, discusses existing legal authorities for managing energy facilities and their effects, and identifies how interested and affected parties will be involved in the planning process, as required by 15 CFR 923.13. "Energy facilities" are defined by federal statute as including, but not limited to: 1) electric generating plants; 2) petroleum refineries and associated facilities; 3) gasification plants; 4) facilities used for the transportation, conversion, treatment, transfer, or storage of liquified natural gas; 5) uranium enrichment or nuclear fuel processing facilities; 6) oil and gas facilities; 7) facilities including deepwater ports for the transfer of petroleum; 8) pipelines and transmission facilities; and 9) terminals that are associated with any of the foregoing.<sup>1</sup>

### Energy facilities in Indiana's coastal region

#### Electricity

The coastal region has four electricity generating facilities. All are along the Lake Michigan shoreline. In Lake County near the Illinois State line is the 614-megawatt (MW) Southern Energy Company State Line Generating Station, which produces electricity for wholesale. Moving east along the shoreline, in the City of Gary, is the 547 MW Northern Indiana Public Service Company (NIPSCO) Dean Mitchell Plant. Further east, in Porter County, is the 653 MW NIPSCO Bailly Power Plant at Burns Harbor. In LaPorte County is the 680 MW NIPSCO generating station at Michigan City. All four of these facilities are coal-powered. Indiana's coastal steel mills also generate electricity for their own use, and one of these, Ispat Inland, Inc., (formerly Inland Steel), sells electricity to NIPSCO.

Southern Energy Company has an application pending with the Indiana Utility Regulatory Commission (IURC) to add a 550 MW gas fired combined cycle power plant (to be called State Line II) near the existing State Line Generating Station in the vicinity of Hammond. IURC is expected to rule on this application by mid-year 2000. Also, Clean Energy, Inc., a subsidiary of NiSource Inc., the parent company of NIPSCO, plans to build, on property in Whiting leased from BP-Amoco Oil Company, a 525 MW gas combined cycle cogeneration power plant. As a "cogeneration" facility it will generate steam for BP-Amoco, and electricity for the wholesale market. Electricity output will be transmitted by NIPSCO's system.

NIPSCO is the exclusive supplier of electricity to Lake County. In Porter County, NIPSCO supplies all but the small number of rural residents served by Kankakee Valley REMC (Kankakee). NIPSCO and Indiana Michigan Power Company (IM) each supply electricity to a part of LaPorte County. Neither Kankakee nor IM have facilities in the coastal area. NIPSCO and IM are investor owned public utilities (IOUs), regulated by IURC.<sup>2</sup>

#### Gas

There are no natural gas producing wells in Indiana's coastal area,<sup>3</sup> but there are three interstate gas pipelines that provide natural gas to the region. ANR Pipeline Company's line runs from the Illinois border near Crown Point across the southern part of Indiana's coastal area in a northeasterly direction

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<sup>1</sup> 16 USC 1453(6)

<sup>2</sup> As per IURC- interviews with Jerry Webb 12/99-2/00.

<sup>3</sup> One residence in the coastal zone, in the Town of Pines, has a gas well for home use.

until exiting from LaPorte County into Michigan. The Crossroads interstate gas pipeline is the former Tecumseh oil pipeline, running from Ohio directly west across the southern part of the coastal area to Schererville, Indiana. These pipelines provide natural gas to NIPSCO, which is the exclusive natural gas service company for the coastal area. NIPSCO distributes the gas to residential, commercial, and industrial consumers through numerous gas distribution lines.<sup>4</sup>

There is one projected natural gas pipeline facility planned for the coastal area. People's Energy Corporation and Coastal Corporation have joined to propose a new gas pipeline, one that would be placed in a northerly direction along a 26-mile corridor in Indiana before heading into Lake Michigan and continuing to Wisconsin.<sup>5</sup>

## **Oil**

There are no oil producing wells in Indiana's coastal area. Oil producing wells elsewhere transport crude oil to Indiana's coastal area by pipeline. Local destinations include the BP-AMOCO Oil Refinery in Whiting and certain interim terminal and storage areas. Lakehead Pipe Line Company Inc owns the only active crude oil pipeline in the coastal area.

There is only one oil refinery in the coastal area, BP-AMOCO. This facility transforms crude oil into refined, or product, oil. It is then transported by truck, ship, and/or product oil pipeline to marketers. There are eleven companies that own product oil pipelines in the coastal area:

BP-AMOCO	Buckeye	CITGO
Clark	Explorer	Marathon
Mobil	Phillips	Shell
Texas Eastern	Transmontaigne	

At the present time there are no known oil facilities planned in the coastal area.

## **Liquefied Natural Gas (LNG) Facilities**

NIPSCO owns a liquefied natural gas facility in the City of LaPorte, Indiana. This facility stores gas for use in times when pipeline sources are insufficient to meet demand, such as in winter.<sup>6</sup> There are no known projected LNG facilities for the coastal area.

## **Liquefied Petroleum Gas**

There are three underground storage reservoirs for liquefied petroleum gas in the coastal area. All three are owned by BP-AMOCO and are in Lake County. At the present time there are no known liquefied petroleum gas facilities planned for the coastal area.

## **Nuclear Energy Facilities**

Indiana has no nuclear energy facilities in the coastal area, nor at present are there any known plans for such facilities. In the early 1980's at the NIPSCO Bailly power plant site in Porter County, construction

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<sup>4</sup> As per IURC- interview with Larry Nisley 1/11/00

<sup>5</sup> As per FERC- phone conversation with Gloria Wilcox 12/13/99

<sup>6</sup> As per IURC-interview with Larry Nisley 1/11/00

had begun on a nuclear power facility, a permit having been secured from the Nuclear Regulatory Commission. A number of concerned citizens' groups filed lawsuits to stop construction, pointing out, among other things, the proximity of the facility to the Indiana Dunes National Lakeshore. NIPSCO cancelled the project in 1982, having only excavated and installed pilings, and restored the site to its original condition. No nuclear material was ever on the site.<sup>7</sup>

### **Gasification Plants**

There are no gasification plants in Indiana's coastal area, nor at present are there any known plans for such facilities.

### **Ports**

The Port of Indiana-Burns International Harbor is located in Portage, Porter County, in the heart of the USA's most productive steel manufacturing region, as well as in close proximity to a rich agricultural market. Classified as a "Foreign Trade Zone", which means that shippers have duty-free storage, repackaging, and assembly for imports and exports, this International Port is specifically designed for St. Lawrence Seaway traffic on the Great Lakes. The port has excellent highway and rail connections. Vessels from Japan, Russia, Brazil, Germany, and other nations use the Port of Indiana. Primary cargoes handled at the port are iron ore, coke, grain, fertilizers, and steel products. In 1993 the port became one of the top-ranked U.S. Great Lakes ports for the shipment of petroleum coke.<sup>8</sup> There are eight docks within the Port of Indiana: the Port Commission owns six (private companies operate these); Bethlehem Steel owns one; and National Steel owns one.<sup>9</sup>

The Indiana Harbor and Ship Canal is located in East Chicago, Lake County. This is also a major port facility. There are 24 docking facilities on the Canal and its branches. The Canal proceeds inland in a due south direction until reaching a fork. The fork to the west is the Lake George branch, and the fork proceeding south is the Calumet River branch. This latter branch connects to the Grand Calumet River, which in turn connects to the Mississippi River and the Gulf of Mexico. Of the 24 docking facilities, Ispat, Inc. (formerly Inland Steel) owns six, and LTV Steel owns five. The other owners are: American Terminals Inc (2); United States Gypsum; BP Amoco Oil; Service Waste Inc; Safety-Kleen Oil Recovery; Mobil Oil Corp (2); City of East Chicago; Atlas Iron Processors; Northern Indiana Dock; Phillips Pipe Line; and CITGO Petroleum Corp. Several of these port facilities are involved in the transfer of petroleum products.<sup>10</sup>

## **Site Assessment and Regulation of Energy Facilities**

### **Electricity**

In Indiana, except for municipal utilities outside of Indianapolis, alternate energy facilities, and facilities for personal use, a public utility may not begin the construction of any facility for the generation of electricity without first obtaining from the IURC a certificate of public convenience and necessity. This certificate will only be issued after the IURC holds a public hearing on such application, considers an

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<sup>7</sup> As per IURC-interview with Robert Glazier 3/23/00

<sup>8</sup> Indiana Port Commission 2000 and Beyond- Strategic Plan, International Ports of Indiana (April '94) including Executive Summary by Przybylski & Klacik of Indiana University School of Public & Environmental Affairs (Aug.'94)

<sup>9</sup> U.S.Coast Guard Navigation Data Center Port Facility Mapper <http://www.navcen.uscg.mil/>

<sup>10</sup> Id.

analysis of long range needs, and makes certain findings, including costs, consistency with an approved plan, and that the public convenience and necessity requires such a project.<sup>11</sup>

An analysis of long-range needs for the expansion of electricity generating facilities must be developed by the IURC, after consultation with the Federal Energy Regulatory Commission (FERC), Indiana public utilities, and utility agencies in neighboring states. The analysis includes a plan to meet future requirements for electricity. The analysis of long-range needs must include, among other things, consideration of: 1) the probable future growth of the use of electricity; 2) needed reserves; 3) size and location of generating plants; 4) pooling of power; and 5) comparative costs of other means of providing electric service. A public hearing must also be held.<sup>12</sup>

In order to estimate the probable future growth of the use of electricity, the IURC has established, as required by law, a permanent forecasting group located at Purdue University in West Lafayette. This group is required to develop and keep current a methodology for forecasting growth. The IURC is required to use this methodology in developing its analysis of long-range needs and its plan for meeting future requirements of electricity.<sup>13</sup> Each year, the IURC must submit to the Governor and the legislature a report of its analysis and plan.<sup>14</sup>

To further assist the IURC in preparing the analysis and plan, utilities (including municipals) owning or operating an electrical generating facility must submit to the IURC an integrated resource plan (IRP) on a biennial basis. An IRP is a utility's assessment of a variety of demand-side and supply-side resources to cost-effectively meet customer electricity service needs. An IRP may also include a public participation procedure and an analysis of the uncertainty and risk posed by different resources and external factors.<sup>15</sup>

Electric utilities required to submit an IRP must also prepare an analysis of historical and forecasted levels of peak demand and energy usage, and include a twenty (20) year period for energy and demand forecasts. The analysis must give consideration to state and federal energy and environmental policies. For each year of the planning period, the electric utility must provide a description of its electric power resources, including the significant environmental effects, i.e. air emissions and solid and hazardous waste disposal, at each existing fossil fueled generating unit. The electric utility must also consider alternative methods of meeting future demand for electric service.<sup>16</sup>

IC 8-1-2.3, in order to encourage orderly development, to avoid unnecessary duplication, to prevent waste, and to promote economical, efficient, and adequate electric service, assigns electric suppliers service areas in which each has the sole right to furnish electric service. Each municipality is to have only one such supplier.

Energy facilities are subject to a variety of environmental regulations. If the construction of a facility for the generation of electricity disturbs five (5) acres or more, 327 IAC 15-5, known as "Rule 5" requires that certain steps be taken to prevent runoff from the site of the construction activity. The Water Pollution Control Board (WPCB) is authorized by IC 13-18-4 to adopt rules determining what is a "polluted condition", and restricting the polluting content of substances. Indiana's water quality rules, 327 IAC 2-1.5, are authorized by that statute, which also prohibits anyone from disposing or allowing to seep any organic or inorganic matter into the waters that causes a "polluted condition". Energy generating facilities

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<sup>11</sup> IC 8-1-8.5. The exception for municipal utilities is at IC 8-1.5-2-7.

<sup>12</sup> IC 8-1-8.5-3.

<sup>13</sup> IC 8-1-8.5-3.5

<sup>14</sup> IC 8-1-8.5-3(h)

<sup>15</sup> 170 IAC 4-7

<sup>16</sup> Id.



are also subject to the National Pollutant Discharge Elimination System (NPDES) permitting system, which serves to control thermal pollution from point sources at such facilities.<sup>17</sup>

Indiana electricity generating facilities are also subject to rules adopted by the Air Pollution Control Board (APCB). The APCB adopts rules to implement the Clean Air Act (CAA). The 1990 CAA Amendments require utility generation facilities to reduce sulfur dioxide and nitrogen oxide emissions, and create a system of marketable pollution credits.<sup>18</sup> In response to the CAA Amendments, in 1991 the Indiana legislature enacted a law that permits a utility to submit to the IURC its CAA compliance plan before implementation. Prior approval of the plan provides some measure of protection to utilities from after-the-fact disallowance of compliance costs, and gives interested parties the opportunity to review and comment on the plan. Utilities with approved plans are also allowed to include the pollution control equipment in the rate base. The IURC must hold a public hearing on each CAA compliance plan submitted.<sup>19</sup>

## **Gas**

FERC regulates the siting, construction, and operation of interstate gas pipelines, as well as the pipeline transportation rate, that is, the amount charged by the pipeline to transport the gas. Such regulation is authorized by the Natural Gas Act (NGA), 15 USC 717 et seq. Under the NGA, companies providing services and constructing and operating interstate pipelines must obtain certificates of public convenience and necessity from FERC.

Construction of a gas pipeline in or under navigable waters requires a Section 10 and most likely a Section 404 permit from the Army Corps of Engineers (ACOE).<sup>20</sup> Such work over navigable waters is construed as "bridge" construction, requiring a Section 9 permit from the U.S. Coast Guard (USCG) and possibly a Section 404 permit.<sup>21</sup>

If a Section 404 permit is required, it will not be issued without IDEM making a 401 water quality certification.<sup>22</sup> The 401 certification will only be issued if the project will not violate the narrative standards of Indiana's water quality rules for the Great Lakes system<sup>23</sup>, and will adhere to certain environmental protection conditions. For Indiana law regarding locating gas pipelines, see below under "Oil".

The federal Department of Transportation regulates the safety aspects of interstate gas pipelines under the federal pipeline safety statute, 49 USC 60101, et seq. The IURC and the federal DOT jointly fund the Pipeline Safety Division (PSD), which administers federal and state pipeline safety standards. The IURC applies these standards to gas operators in Indiana regardless of whether they have withdrawn from IURC economic jurisdiction.<sup>24</sup> The IURC sets state gas safety standards, which must be no less stringent than the federal standards. The standards address design, installation, inspection, testing, construction, extension, operation, replacement, and maintenance. The PSD demands that any person who transports, owns, operates, or leases pipeline facilities must annually certify that he has complied with certain federal

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<sup>17</sup> 33 USC 1342 and 327 IAC 5-2

<sup>18</sup> APCB powers/duties at IC 13-17. Clean Air Act at 42 USC 7401 et seq.

<sup>19</sup> IC 8-1-27

<sup>20</sup> Sec 10 of the Rivers and Harbors Act, 33 USC 403.

<sup>21</sup> Sec 9 of the Rivers and Harbors Act, 33 USC 401.

<sup>22</sup> Sec 401 of CWA, 33 USC 1341

<sup>23</sup> 327 IAC 2-1.5

<sup>24</sup> Municipal utilities are allowed by IC 8-1.5-3-9 to withdraw from IURC's economic jurisdiction by referendum. IC 8-1.5-3-9.1 allows certain municipalities to so withdraw by ordinance.

safety standards. If a gas pipeline is determined to be hazardous to human life or property, the PSD may order the owner or operator to remove the hazard, and do so without a hearing in an emergency.<sup>25</sup>

In addition to pipeline locating and safety, Indiana's regulation of gas is as follows: 1) construction involving an expenditure of over \$10,000.00 must be approved by the IURC or it cannot become part of a utility's "rate base" - this applies to all utilities, not just gas;<sup>26</sup> 2) a "necessity certificate" is required for gas distribution service, and the IURC must hold a public hearing before issuing such a certificate;<sup>27</sup> 3) every "public utility" (not just gas) must furnish reasonably adequate service and facilities, and the charge made by any public utility for any service rendered must be "reasonable and just";<sup>28</sup> and 4) gas wells are subject to a permitting program, as drilling, testing, plugging and abandoning is regulated, and pollution prevention measures are required.<sup>29</sup>

## **Oil**

Major crude oil and product oil pipelines in Indiana's coastal area that transport petroleum interstate are regulated by the federal government. Safety standards are set forth in the federal pipeline safety statute, 49 USC 60101 et seq., and are enforced by the U.S. DOT. FERC regulates rates for interstate transportation of oil under Section 1 of the Interstate Commerce Act, 49 App.USC 1 et seq. Construction of an oil pipeline in or under navigable waters requires a permit from the Army Corp of Engineers (ACOE).<sup>30</sup> Such work over navigable waters is construed as "bridge" construction, requiring a permit from the U.S. Coast Guard (USCG).<sup>31</sup>

FERC also regulates the practices of oil pipeline companies under the Energy Policy Act of 1992,<sup>32</sup> assuring shippers equal access to pipeline transportation and equal service conditions on a pipeline.

Indiana requires a permit for making or using any structure, e.g. a gas or oil pipeline, in a floodway, IC 14-28-1, or for erecting a structure in a navigable water, IC 14-29-1. Qualified new utility lines, including such pipelines that are placed in a manner unlikely to have a significant environmental impact may be exempted from the individualized permit requirement of IC 14-28-1.<sup>33</sup> Indiana law also addresses petroleum releases from facilities, authorizing the Indiana Department of Environmental Management (IDEM) to order or take remedial action.<sup>34</sup>

## **Liquefied Natural Gas**

Because of the difficulty of meeting demand for natural gas from existing pipeline sources during cold weather periods, it is stored in a liquefied state for such times. Natural gas must be kept below approximately 260 degrees below zero Fahrenheit (F) to maintain a liquefied state. This means that the gas must be kept under pressure, and in this form the volume is so reduced as to make storage a very practical way to assure a supply of natural gas in times of shortage. NIPSCO has a liquefied natural gas (LNG) facility in Indiana's coastal area, in the City of LaPorte. Gary Public Transit utilizes this LNG to

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<sup>25</sup> See IC 8-1-22.5

<sup>26</sup> IC 8-1-2-23

<sup>27</sup> IC 8-1-2-87.5

<sup>28</sup> IC 8-1-2-4. For municipal utilities, charges must also be "reasonable and just" IC 8-1.5-3-8.

<sup>29</sup> IC 14-37

<sup>30</sup> Sec 10 of the Rivers and Harbors Act, 33 USC 403.

<sup>31</sup> Sec 9 of the Rivers and Harbors Act, 33 USC 401.

<sup>32</sup> 16 USC 2621

<sup>33</sup> 310 IAC 6-1

<sup>34</sup> IC 13-24-1

fuel its fleet. (Also, Kinder-Morgan acquired Exxon's product oil pipeline and uses it to transport natural gas liquids- not the same as LNG- under pressure)<sup>35</sup>

LNG facilities may be subject to the requirement of a "necessity certificate" as a transporter of gas to an "end use consumer". The IURC will grant a necessity certificate only after public notice and a public hearing, and if it finds from the evidence that: 1) the applicant has the power and authority to obtain the certificate and render the requested service; 2) the applicant has the financial ability to provide the requested service; 3) public convenience and necessity require the requested service; and 4) the public interest will be served by the issuance of the necessity certificate.<sup>36</sup>

Also, the supplier of LNG must furnish reasonably adequate service and facilities, and the charge made for any service rendered must be "reasonable and just"<sup>37</sup>

### **Liquefied Petroleum Gas**

Propane and butane are two examples of liquefied petroleum gas (LPG). Propane becomes a gas when the temperature is over 40 degrees below zero F, while butane only is converted to a gas in temperatures over 32 degrees F. Therefore whereas propane might be useful as a home heating fuel in Indiana's coastal area, butane would only be useful in that capacity in warm climates. There are three underground storage reservoirs for LPG in the coastal area. All three are owned by BP-AMOCO and are in Lake County.

As detailed above under LNG, an LPG transporter may be subject to IC 8-1-2-87.5's requirement for a "necessity certificate", requiring a public hearing, if it transports gas to an "end use consumer". It would then be a "public utility", subject to IC 8-1-2-4's requirement of furnishing "reasonably adequate service and facilities" and making "reasonable and just" charges.

IC 22-11-15 is specific to LPG, implementing federal regulations and national safety standards regarding filling containers of LPG. The statute contains labeling requirements to ensure that only the owner or person authorized by the owner fills, refills, sells, uses, or disposes of containers of LPG.

### **Nuclear Energy Facilities**

Indiana has no nuclear energy facilities within the coastal area. However, Indiana does have a statute relating to the permitting of nuclear facilities. An applicant must file an environmental feasibility report with each state environmental board, concurrently with a preliminary safety analysis filed with the U.S. Atomic Energy Commission. A public hearing is to be held on the environmental effects of such a facility, and any permit issued must require monitoring and reporting of discharges.<sup>38</sup>

### **Gasification Plants**

A gasification plant is a facility that, by a variety of processes but essentially by heating, produces gas from coal. There are no such facilities in Indiana's coastal area. Gasification plants are required to abide by Indiana's environmental laws, such as air pollution rules.

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<sup>35</sup> As per Larry Nisley of IURC 2/1/00. These liquids come from the ground as mixed gases, and are pressurized.

<sup>36</sup> IC 8-1-2-87.5 does not distinguish between natural gas in liquid or gaseous state.

<sup>37</sup> IC 8-1-2-4 does not distinguish between natural gas in liquid or gaseous state.

<sup>38</sup> IC 13-15-9

## **Ports**

The Indiana Port Commission, as authorized by statute, created the Port of Indiana-Burns International Harbor, to promote the agricultural, industrial, and commercial development of the state, to promote the general welfare, and to realize the benefits of the St. Lawrence Seaway through the creation of this port.<sup>39</sup> Although the Indiana Port Commission is the owner of six of the eight docking facilities in the Port of Indiana, private companies operate all eight facilities, under contract with the Commission. The Indiana Harbor & Ship Canal, on the other hand, was created by private concerns, and has been a major industrial port serving steel and oil companies throughout the twentieth century.

The U.S Coast Guard (USCG) has authority over the discharge of oil and hazardous substances to Lake Michigan from vessels, under Section 311 of the Clean Water Act (CWA),<sup>40</sup> as amended by the Oil Pollution Act of 1990 (OPA 90)<sup>41</sup> and under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).<sup>42</sup> In addition to Lake Michigan itself, USCG is responsible under these statutes for the entire "coastal zone", which includes, e.g., streams upstream from the Lake as far as they are navigable. U.S.EPA is responsible for the "inland zone", and shares duties with the USCG under a Memorandum of Understanding for border areas. USCG uses the Refuse Act, 33 USC 407, for discharges of medical wastes. Indiana has its own rule, 327 IAC 2-6.1, administered by IDEM, for spills of oil and hazardous substances.

Of particular note in safeguarding Indiana's coastal waters is that the State holds the bed of Lake Michigan and navigable tributaries for the public trust. The State may therefore exercise the authority of a property owner regarding activity therein, including the placement of any pipeline. Also, IC 14-29-1-8, requires a permit for erecting a structure in, removing water from, or removing material from, a navigable waterway. A separate permit under this statute is not required for an activity for which a Section 404 permit has been issued by the ACOE.

Ports are often in need of dredging to continue to provide deep waters for shipping. The ACOE conducts long term navigation projects as authorized by Congress. Periodic maintenance dredging is included in such long-term projects, and is also subject to approval by Congress in the annual budget as a line item. At present in Indiana's coastal waters, there are five long-term projects at the following locations: 1) Indiana Harbor & Ship Canal; 2) the Port of Indiana (Burns International Harbor); 3) Michigan City Harbor- Trail Creek; 4) Burns Small Boat Harbor- Burns Ditch; and 5) Calumet Harbor (on the Indiana-Illinois border). If the project will involve a discharge of dredged material into "waters of the United States", the ACOE at present applies for a water quality certification from IDEM.<sup>43</sup>

Private interests that wish to engage in dredging or filling in navigable waters must obtain a Section 10 permit from the ACOE.<sup>44</sup> If they discharge to any waters of the United States, navigable or non-navigable, including wetlands, they need a 404 permit<sup>45</sup> from the ACOE and a 401 water quality certification<sup>46</sup> from IDEM.<sup>47</sup> Dredging or depositing fill into a floodway in Indiana may require a permit under IC 14-28-1.<sup>48</sup>

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<sup>39</sup> IC 8-10-1

<sup>40</sup> Sec 311 of CWA, 33 USC 1321

<sup>41</sup> 33 USC 2701

<sup>42</sup> 42 USC 9601

<sup>43</sup> Sec 401 of CWA, 33 USC 1341

<sup>44</sup> Sec 10 of the Rivers and Harbors Act, 33 USC 403.

<sup>45</sup> Sec 404 of CWA, 33 USC 1344

<sup>46</sup> Sec 401 of CWA, 33 USC 1341

<sup>47</sup> Thus a discharge into navigable waters requires both a Sec 10 permit and a 404 permit from the ACOE, as well as a 401 water quality certification from IDEM

<sup>48</sup> See also IC 14-29-1-8 regarding navigable waters

## Public Participation

In addition to the number of opportunities for public participation already outlined above, IC 8-1-2-54 requires IURC to hold a public hearing upon complaint by any ten citizens as to a public utility's rates, practices, or services. Only after such a public hearing may IURC enter an order regarding the complaint. DNR affords the public an opportunity to be heard on the issuance of permits under IC 14-28-1 (structure in a floodway) and under IC 14-29-1-8 (structure in navigable waters), discussed above.<sup>49</sup> Environmental controls on energy facilities are adopted only after opportunities for public participation. The environmental Boards provide for extensive public comment, and for public hearings, in their rulemaking process.<sup>50</sup> Also, before issuance of individual NPDES permits, to control, e.g., thermal pollution, opportunity for public comment must be provided, and a public hearing may be held upon request if there is a "significant public interest" in the draft permit.<sup>51</sup>

The utility regulation code specifically grants the public access to the records of the IURC, subject to the provisions of the general statute pertaining to public records and confidentiality.<sup>52</sup> Indiana allows public hearings to be broadcast.<sup>53</sup> Also, public notice of IURC hearings must be published at least ten days in advance in two newspapers in the county affected by its order, and the IURC mails notice to those with competitive interests and to any affected city or town.<sup>54</sup>

The Indiana Utility Consumer Counselor ("the Counselor") serves the public interest. This is an attorney hired with state funds to represent the consumer interest in IURC hearings, in appeals, and in all lawsuits affecting the public interest (e.g. mergers). The IURC must notify the Counselor immediately of all proceedings, with at least ten days prior notice. The Counselor may call witnesses and hire experts on behalf of the public interest client. The Governor may also appoint a deputy Consumer Counselor, to serve, in Washington, D.C., the interests of the Indiana consumer at Federal Energy Regulatory Commission (FERC) hearings and appeals.<sup>55</sup>

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<sup>49</sup> See e.g. IC 14-11-4

<sup>50</sup> IC 13-14- 8; IC 13-14-9; IC 4-22-2

<sup>51</sup> 327 IAC 5-3-9

<sup>52</sup> IC 8-1-2-29. The general public records statute is IC 5-14-3

<sup>53</sup> IC 4-22-3

<sup>54</sup> IC 8-1-1-8

<sup>55</sup> IC 8-1-1.1

## **Chapter 14: Nonpoint Source Pollution**

### **Defining Nonpoint Source Pollution**

Nonpoint source pollution (NPS) is water pollution that results from a variety of land use practices. Unlike pollution from industrial and sewage treatment plants, which are generally characterized as point sources, NPS is fed by many diffuse sources. NPS is spread by rainfall and snowmelt that moves across the ground as runoff and picks up and transports pollutants to wetlands, lakes, rivers, coastal waters, and sources of drinking water. According to the state reports, NPS is the leading cause of water quality problems, including impairments to drinking water supplies, recreation, fisheries, and wildlife. Examples of NPS include the following:

- Fertilizer and pesticides from agricultural lands and residential areas
- Oil, grease, and toxic chemicals from urban runoff
- Sediment from improperly managed construction sites, agricultural and forest lands, or eroding banks
- Bacteria and nutrients from livestock, pet wastes, and faulty septic systems<sup>1</sup>

The nation's coastal waters are especially affected by NPS due to the large number of people that live near the coast. Coastal waters provide homes for a large diversity of plants and animals and are recreational centers for more than 180 million visitors each year. Yet, high levels of pollution prevented people from swimming safely at coastal beaches on more than 12,000 occasions from 1988 through 1994. Rapidly increasing population growth and development in coastal regions could be a source of even more coastal water quality problems in the future.

### **NPS Concerns for Indiana's Lake Michigan Watershed**

During 1998 to 1999, IDEM conducted a Unified Watershed Assessment for Indiana's Lake Michigan region. IDEM ranked the present condition of water in lakes, rivers, and streams and investigated resource concerns and stressors on water quality for the region. The IDEM found that all of the watersheds in the region do not meet designated uses or other natural resource goals. Stressors were identified as residential septic system density, urbanization, and some agricultural activities.

There is still work that needs to be done in Indiana's coastal region to identify impacts due to NPS and those impacts that are due to point sources and legacy contamination. Legacy contamination reflects the capacity of river sediments to hold contaminants and release them slowly to the water. The industrial past in northwest Indiana has left several stretches of rivers that contain contaminated sediments. In addition, although much has been done to improve municipal water treatment systems, the rapid urbanization of northwest Indiana has stressed these systems, many of which treat both storm water and sewer water sources.

In 1996, IDEM field investigations identified elevated concentrations of toxic substances in about 6% of the river miles monitored for toxics. High concentrations of PCBs, pesticides, and metals were most common in sediment samples and in fish tissue samples. However, less than 1% of the surveyed inland lake acres contained elevated concentrations of toxic substances in their sediment.

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<sup>1</sup> IDEM 1999. Nonpoint Source Pollution Management Plan for Indiana 2000 to 2004.

In 2000, DNR contracted for an evaluation of the current conditions of the primary watershed in the coastal region, the Little Calumet-Galien River Watershed. The study focused on NPS, but also considered point sources that may contribute to water quality problems. It was found that in many locations where excessive levels of measured pollutants were encountered, a permitted discharger, or point source, was located immediately upstream. This finding indicates that additional work is needed to assess the most effective approach to improving the region's water quality.

## **Existing Programs to Address Nonpoint Source Pollution Under the Clean Water Act**

The federal Clean Water Act of 1972 was passed to "restore and maintain the chemical, physical, and biological integrity of the nation's waters". For the first fifteen years of the national effort to address water pollution, from 1972 until 1987, federal and state authorities focused most of their attention on controlling "point source" pollution that discharged into waters through pipes, primarily from industry and municipal sewage treatment plants. This was controlled by a system of permits issued by EPA under the National Pollutant Discharge Elimination System (NPDES), established by section 402 of the Clean Water Act (CWA).

The NPDES program has had considerable success in cleaning up the nation's waters. However, NPS remains a major pollution problem. In 1987 Congress declared it to be "...national policy that programs for the control of nonpoint sources of pollution be developed and implemented..." It enacted section 319 of the CWA, authorizing EPA to assess the problem, adopt and implement programs, and issue grants to states.

Under Section 319, NPS pollution is defined as: "Land management activity or land use activity that contributes or may contribute to ground and surface water pollution as a result of runoff, seepage, or percolation and that is not defined as a point source in Section 115.01, subdivision 15. Nonpoint sources include, but are not limited to, rural and urban land management activities and land use activities and specialty land use activities such as transportation" (Section 115.03. Subdivision 6).

To meet the goals of Section 319, the US EPA and Indiana developed a state nonpoint source program that is updated every five years. The Watershed Management Section of IDEM administers the Clean Water Act Section 319 NPS Program that provides federal funding for NPS assessment, prevention, education, and restoration. In addition, the Watershed Management Section promotes watershed management through education, information sharing, and technical assistance.

The Nonpoint Source Task Force is a voluntary group of federal, state, and local agencies and non-governmental representatives. The task force met several times from 1995 to 1997 to document NPS concerns in the state and develop recommendations for the NPS Program. The findings and recommendations of the task force were used to develop the NPS Management Plan for Indiana for 2000 to 2004.

The NPS Management Plan documents existing mechanisms for the following activities: watershed management partnerships, processes for identifying impaired watersheds and watersheds needing protection, NPS Program structure, and other NPS programs.

## **Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990**

In 1990, Congress enacted Section 6217 of the Coastal Zone Act Reauthorization Amendments (CZARA). One of CZARA's major concerns was the impact of "nonpoint source" pollution (NPS) on coastal waters.

In enacting the CZARA in 1990, Congress noted the significant decline of water quality in the coastal areas, finding NPS pollution "...a significant factor in coastal water degradation. In urban areas, storm water and combined sewer overflow are linked to major coastal problems, and in rural areas, runoff from agricultural activities may add to coastal pollution." Congress also found "a clear link between coastal water quality and land use activities along the shore". Under CZARA two federal agencies, the National Oceanic and Atmospheric Administration (NOAA) and U.S. Environmental Protection Agency (EPA), share responsibility for developing the framework for the program. Also, states for the first time were to bring together the land-use management expertise of their coastal zone management agencies and the water quality expertise of the Section 319 agencies.

Section 6217 of the CZARA, 16 USC 1455b, was enacted to more specifically address the impacts of NPS pollution on coastal water quality. Each state with an approved coastal zone management program must develop and submit to EPA and NOAA for approval an NPS pollution program, the purpose of which is to develop and implement coastal NPS "management measures" to restore and protect coastal waters. The central purpose of 6217 is to strengthen the links between federal and state coastal zone management and water quality programs and to enhance state and local efforts to manage land use activities that degrade coastal waters and habitats.

"Management measures" are defined as "economically achievable measures for the control of the addition of pollutants from ...nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives." Section 6217 (g) of the CZARA provides for federal guidance in specifying management measures. EPA has published a guidance document that describes a number of management measures for five major categories of nonpoint sources: 1) agricultural runoff; 2) urban runoff; 3) forestry runoff; 4) marinas and recreational boating; and 5) channel modification, dams, and stream bank and shoreline erosion. Also included are measures for wetlands, riparian areas, and vegetated treatment systems.

Section 6217 also calls for a description of a range of methods or practices to manage NPS pollution. Within the NPS pollution program, states must document the enforceable policies used to control NPS and to implement management measures. Examples of practices or methods for implementing management measures include: 1) reducing runoff from impervious parking lot surfaces by placing gently sloping grassy swales between rows of parking spaces; 2) installing soil erosion and sedimentation controls to prevent pollutants from leaving the site of land disturbing activities; 3) reducing nutrient and pesticide application to crops, golf courses, and residential properties; 4) planting or preserving buffer strips of vegetation along stream banks to reduce runoff and protect against erosion; and 5) managing grazing to protect sensitive areas, such as wetlands and streams, from animal waste.

Wetlands play a vital role in reducing NPS pollution, by intercepting surface runoff, subsurface flow, and certain groundwater flows. Their role in water quality improvement includes processing, removing, transforming, and storing such pollutants as sediment, nitrogen, phosphorous, and certain heavy metals. They serve as a buffer for receiving waters. In enacting the CZARA, Congress made a specific finding as to the value of wetlands and to the fact that 50 percent of coastal wetlands have already been destroyed. Section 6217(g) guidance cites protection of wetlands as a management measure for control of runoff.



## **The Requirements of Section 6217**

Each state program shall provide for the implementation of management measures in conformity with guidance by NOAA and EPA, and shall contain the following:

1. An identification of land uses that individually or cumulatively cause or contribute significantly to degradation of coastal waters.
2. An identification of critical coastal areas adjacent to coastal waters, within which any new land uses or substantial expansion of existing land uses shall be subject to management measures in addition to those otherwise provided for in the program.
3. Management measures and enforceable policies applicable to land uses and areas identified in 1 and 2 above.
4. Technical assistance program for local governments and the public for implementing measure referred to in 3 above.
5. Public participation opportunities in all aspects of the program.
6. Administrative coordination methods to improve coordination among state agencies and between state and local officials responsible for land-use programs and permitting, water quality permitting, and enforcement, etc.
7. Implementation area boundary for Section 6217, if different from boundary for state coastal zone management program.

In 1993, EPA and NOAA published technical and programmatic guidance to help the states develop their programs. The programmatic guidance, in particular, stimulated additional discussion between federal and state agencies that led to more flexible guidelines. In 1995, NOAA and EPA expanded the use of conditional approval to allow up to 5 years to complete program development. And on October 21, 1998, guidance was revised to provide an extended timeframe (15 years) to achieve full implementation of management measures and flexibility to focus on specific water quality problems and watersheds. The goal is to strike a balance between the need to implement NPS management measures broadly and the need to address specific water quality problems for particular watersheds. States can also exclude geographic areas or sources of nonpoint pollution that do not contribute significantly to coastal water quality problems. The guidelines also acknowledge the benefits of utilizing voluntary mechanisms to achieve water quality goals.

NOAA and EPA have approved the use of Section 401 Clean Water Act certifications and Coastal Zone Management Act consistency certifications as state mechanisms to manage the impacts of NPS. Also, although states must meet conditions within five years after conditional approval, with an evaluation of progress after three years, the administrative changes grant some leeway in schedules for implementation of the entire program. Rather than rigid schedules for implementing management measures, monitoring, and additional management measures, states can now implement management measures in sequence, assess effectiveness in achieving water quality goals, and determine the need for additional management measures on a continuous basis.

Within each state's 15-year program strategy is to be a series of 5-year implementation plans with benchmarks against which EPA and NOAA will measure progress. States must update the plans at least every five years. EPA and NOAA have promised to work with the states to develop an efficient and effective evaluation process.

In developing the newest administrative changes, NOAA and EPA committed to working with states, the environmental community, affected interests, and others to find sources of funding for continued development and implementation of the federal Coastal Nonpoint Program.

### **Development of an Indiana Coastal Nonpoint Pollution Management Plan**

Development of Indiana's Coastal Nonpoint Pollution Management Plan (CNPMP) will be accomplished through additions to the Indiana Nonpoint Source Management Program and the Lake Michigan Coastal Program (LMCP). The LMCP will work with the DNR Division of Soil Conservation, IDEM, and other stakeholders to identify strategies and coordinate public participation in plan development. Plan development will include the public and representatives from stakeholder groups such as business, industry, local, state, and federal agencies, environmental organizations, recreational interests, and agriculture.

Indiana's existing Nonpoint Source Pollution Management Program under Section 319 has successfully addressed nonpoint source pollution through state, local, federal, and private partnerships. Utilizing this existing program to develop specific goals for coastal waters will reduce duplication and increase the potential for success of an Indiana CNPMP. Coordination mechanisms between programs are discussed in Chapter 4. Based on extensive research into Indiana's existing management authorities and programs, we believe that Indiana currently has the mechanisms needed to implement an Indiana CNPMP.

The DNR will submit a complete assessment and description of Indiana's CNPMP under the requirements set out in NOAA and EPA guidance. Upon approval of the LMCP, Indiana will have 30 months to submit its CNPMP.

### **Indiana's Existing Statutes and Rules for NPS**

The following is a description of existing authorities the State of Indiana uses to address the five major categories of nonpoint pollution under section 6217 guidance: Urban Runoff, Agricultural Runoff, Forestry Runoff, Marinas, Hydrologic Modification, (and wetlands). Indiana is confident that the state's existing enforceable and voluntary mechanisms provide the basis for an approved CNPMP under section 6217. In addition, Indiana has developed many other programs, both regulatory and voluntary, to address NPS that will be included in the CNPMP.

This section provides an overview of the existing authorities that Indiana will utilize to develop a CNPMP. A detailed analysis of Indiana's existing statutes, rules, and programs for NPS is in Chapter 5 Section 3.

#### **State Policy-making Boards for NPS**

The Water Pollution Control Board is responsible for state policy to control water pollution and advise the state water pollution control agency, IDEM. The Board consists of eleven members with qualified knowledge, experience or education. The Water Pollution Control Board "shall adopt rules for the control and prevention of pollution in waters of this state with any substance which is deleterious to the public health or to the prosecution of any industry or lawful occupation, or whereby any fish life or any beneficial animal or vegetable life may be destroyed or the growth or propagation thereof prevented or injuriously affected".<sup>2</sup>

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<sup>2</sup> ID 13-1-3-4

The Water Pollution Control Board has adopted a policy of nondegradation of water quality that is applicable to all surface waters and is not limited by pollutant source. This policy, 327 IAC 2-1.5-19, states that "existing beneficial uses shall be maintained and protected. No degradation of water quality shall be permitted which would interfere with or become injurious to existing and potential uses." Several waters of high quality were designated and those waters must be maintained at the water quality existing in 1977 without degradation.

The Soil Conservation Board was established by Indiana Code 14-32-3 to address improper land use practices and to advise the DNR. The Board is authorized to develop a statewide regulatory program "after all reasonable voluntary approaches to erosion and sediment reduction have been exhausted".<sup>3</sup> However, its mandate is primarily to work cooperatively with other governmental entities to develop land and water protection plans through voluntary methods.

Soil and Water Conservation Districts were also created within the state as governmental subdivisions through Indiana Code 14-32-5. The districts are authorized to carry out a variety of functions, including the following:

- Carry out soil erosion and water runoff preventive and control measures
- Cooperate or enter into agreements in the carrying on of conservation operations
- Develop or participate in the development of comprehensive plans for the proper management of soil and water resources
- Enter into agreements or covenants concerning the use and treatment of the land that will tend to prevent or control soil erosion and achieve water conservation and water quality protection

### General Statutes

The following are Indiana environmental statutes and regulations including those that:

- 1) Empower/ mandate regulatory action;
  - 2) Prescribe a general prohibition against polluting activities; or
  - 3) Provide water quality standards.
- IC (Indiana Code) refers to statutes, and IAC (Indiana Administrative Code) refers to regulations (called "rules" in Indiana)

#### IC 13-11

This article contains some helpful definitions pertaining to non-point source pollution (NPS):

*Contaminant* is defined as from "whatever source" and thus is not limited to point source pollution.

*Discharge* is defined as intentional or unintentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

*Water pollution* is defined broadly to include a discharge or threatened discharge of a contaminant into any waters that can make the waters harmful to public health, fish, wild animals, or livestock.

*Waters* are defined very broadly, to include even private ponds if pollution of the environment or public resources is threatened.

#### IC 13-14

In this article, the various pollution control boards are empowered to set standards for discharges, specifying maximum permissible concentrations of contaminants of air, water, and land, and to set up a permit system for the discharge of "contaminants". The boards can also set alert criteria and abatement standards for pollution episodes or emergencies, whether or not the activities would meet discharge requirements under normal circumstances. The Governor can issue an emergency order to discontinue the discharge of contaminants where a clear and present danger exists.

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<sup>3</sup> IC 13-32-2-12(9)

#### IC 13-15

Under this article the Water Pollution Control Board (WPCB) is mandated to establish requirements for the issuance of permits to control point- or non-point- source discharges to water. The Solid Waste Management Board (SWMB) is mandated to establish requirements for the issuance of permits to control the disposal of "contaminants" onto the land. Finally, injunctive relief is available to the Indiana Department of Environmental Management (IDEM) notwithstanding a polluter's obtaining a stay of a permit modification or revocation.

#### IC 13-17

This article addresses air pollution, including establishing that the Air Pollution Control Board (APCB) to implement the Clean Air Act (CAA), 42 USC 7401, to restrict open burning, PCB incineration, thermal oxidation, and asbestos, and to empower the APCB to control vehicle emissions.

#### IC 13-18-3

This chapter contains the general powers and duties of the Water Pollution Control Board (WPCB), including the power to adopt rules to implement the Clean Water Act (CWA), 33 USC 1251, and the Safe Drinking Water Act (SDWA), 42 USC 300h, and the duty to adopt rules to control water pollution that is injurious to humans or prevents growth of beneficial fish, animal, or plant life.

#### IC 13-18-4

Under this chapter, the WPCB has the power to adopt rules determining what is a "polluted condition", and restricting the "polluting content" of substances. This chapter authorizes Indiana's water quality rules. Also, IDEM can take appropriate steps to prevent any pollution that is unreasonable and against public interests, considering the condition of any stream or other waters of the state. Section 5 provides that no one may "throw, run, drain, or otherwise dispose, or cause, permit, or suffer to be thrown, run, drained, allowed to seep, or otherwise disposed into any waters, any organic or inorganic matter that causes or contributes to a polluted condition of any waters..."

#### IC 13-18-17

Indiana's Groundwater Protection Act establishes an interagency groundwater task force to address groundwater pollution. It requires IDEM: to maintain an open registry of groundwater contamination sites; to operate a groundwater quality clearinghouse to handle complaints and provide information to the public; and to investigate contamination sites, issuing advisories and taking emergency action where appropriate. It also requires the WPCB to adopt rules to, among other things, ban discharges of effluents into potable groundwater, set concentration limits for contaminants in ambient groundwater, and establish protection zones around wells.

#### IC 13-30

This article concerns enforcement and other legal action. In administrative, licensing, or other procedures, a program, a product, or conduct that is likely to impair, pollute, or destroy the environment may not be authorized, approved, or permitted to continue if there is a feasible and prudent alternative. Chapter 2 lists prohibited acts, including: 1) the discharge of any contaminant into the environment that violates rules, standards, or requirements of the appropriate Board; 2) the deposit of any contaminant on land, except as acceptable to the SWMB; 3) the open dumping of solid waste in violation of rules of the SWMB; 4) the disposal of solid waste in or adjacent to a lake or stream; and 5) the application of used oil to the ground, except with a permit. Chapter 3 details Indiana's administrative procedure for violations of environmental laws, consisting of orders to cease and desist, monetary penalties, corrective action, and revocation of permits. Chapter 4 provides for civil penalties of up to \$25,000 per day, (\$500 per hour for one who

violates an emergency order). Chapter 6 provides that a person, including a corporate officer, who intentionally, knowingly, or recklessly violates an environmental law, rule, permit, order, or determination, commits a Class D felony.

#### IC 14-26-3-3

This section (3) authorizes the Indiana Department of Natural Resources (DNR) to commence and prosecute, as well as intervene in, any legal action concerning the preservation or maintaining the waters of the state.

#### IC 14-28-1-27

This section, part of the floodway chapter, provides that "(a) person may not put, throw, dump, or leave a contaminant, garbage, or solid waste in, upon, or within 15 feet of a lake, or in or upon a floodway." However, agricultural use of chemicals and permitted activity is exempted.

#### IC 16-19-3-4

This section empowers the Indiana State Board of Health (ISBH) to adopt rules regarding public health nuisances, pollution of the water supply, and disposition of excrement and sewage.

#### IC 36-9-30-35

Solid waste may be disposed of on land only through use of sanitary landfills, incineration, composting, garbage grinding, or other acceptable methods approved by IDEM in accordance with rules adopted by the SWMB. No one may operate or maintain an open dump.

#### 327 IAC 2-1.5

This rule (1.5) establishes water quality standards for the Great Lakes system. Indiana's coastal zone is in the Great Lakes system. Indiana adopted this rule pursuant to the Great Lakes Water Quality Initiative (GLI), which was issued by EPA as required by an amendment to the CWA. The following are highlights of the rule:

Antidegradation standard. Discharges into surface waters must not impair existing instream water uses, as the water quality necessary to protect existing uses shall be maintained and protected. Where the designated use is impaired, no lowering of quality is allowed regarding the pollutant causing the impairment. Any surface water within the Great Lakes system whose existing quality for any parameter exceeds the criteria established in this rule are considered "high quality" for that parameter. Certain high quality waters are designated "outstanding state resource waters" and the high quality of these cannot, at present, be degraded. Lake Michigan is an "outstanding state resource water". 327 IAC 15-2-6 requires individual National Pollutant Discharge Elimination System (NPDES) permits (i.e. no general permits) for all point source discharges to these waters.

Surface water use designation All surface waters of the Great Lakes system are designated for full-body contact recreation, must be capable of supporting a well-balanced, warm water aquatic community, and must be capable of supporting put-and-take trout fishing. All waters capable of supporting the natural reproduction of trout shall be so maintained. Also, Lake Michigan and several other area waters are designated as "salmonid" waters, that is, capable of supporting a salmonid fishery.

Minimum surface water quality criteria. All waters shall be free from substances, materials, floating debris, oil, or scum attributable to municipal, industrial, agricultural, and other land use practices, or other discharges that: 1) will settle to form putrescent or otherwise objectionable deposits; 2) are in amounts sufficient to be unsightly or deleterious; 3) produce color, visible oil sheen, odor, or other conditions in such degree as to create a nuisance; 4) are in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to cause a nuisance, be unsightly, or otherwise

impair the designated uses; or 5) are in amounts sufficient to be acutely toxic to, or to otherwise severely injure or kill aquatic life, other animals, plants, or humans. Aquatic life criteria, human health criteria, and wildlife criteria are determined and detailed in this water quality rule.

#### 327 IAC 5-2-11.3

To ensure that the level of water quality necessary to protect existing uses is maintained for all waters within the Great Lakes system, the Commissioner of IDEM must establish controls as necessary on point- and non-point- source pollution.

#### 327 IAC 5-2-11.4

In establishing total maximum daily loads (TMDLs), load allocations for non-point sources are to be included.

#### 329 IAC 10-4

Open dumping, and storage and disposal of solid waste in a manner that threatens the environment is prohibited. The owner of the land is responsible for controlling and correcting the problem.

### **Existing State Laws by NPS Category**

#### **Agriculture**

##### Erosion and Sediment Control

IC 14-32-2-12 outlines the Soil Conservation Board's duties including: 1) coordinating the erosion and sediment part of 33 USC 1288 and other erosion and sediment reduction programs that affect water quality, in cooperation with state and federal agencies and through Soil and Water Conservation Districts (SWCD); and 2) developing a statewide regulatory program to be initiated after all reasonable voluntary approaches to erosion and sediment reduction have been exhausted.

IC 14-32-5-1 lists numerous duties and powers of each SWCD, including:

1) to carry out soil erosion and water runoff preventive and control measures on land within the district with the consent of the occupier of the land; 2) to adopt rules and regulations to carry into effect the purposes and powers of IC 14-32; 3) to require an occupier of land, as a condition to extending benefits under IC 14-32, to make: contributions in money, services, materials, or otherwise to an operation conferring benefits; and/or enter into agreements or covenants concerning the use and treatment of the land that will tend to: (a) prevent or control soil erosion; (b) achieve water conservation and water quality protection; and (c) reduce flooding; and 4) to serve as management agency for the erosion and sediment part of 33 USC 1288, and other erosion and sediment reduction programs that affect water quality in each county.

IC 14-32-5-4 requires each SWCD to inspect every landfill twice a year concerning erosion and sediment control. The Division of Soil Conservation of the DNR is required by IC 14-32-7-12 to: 1) administer a lake and river enhancement program to control sediment & associated nutrient inflow; 2) assist in encouraging and monitoring compliance with erosion and sediment reduction programs; and 3) share technical and educational expertise regarding control of soil erosion. The DNR is able under IC 14-32-7-10 to use money appropriated by the legislature to expand the Small Watershed Planning Program with the U.S. Department of Agriculture (USDA) under 16 USC 1001.

##### Confined Animal Facility Wastewater and Runoff

IC 13-18-10 prevents the construction of a "confined feeding operation" (CFO) without approval of IDEM. The applicant must submit: 1) plans for design and operation of manure treatment and control

facilities; 2) a manure management plan with procedures for soil and manure testing; 3) maps of manure application areas; 4) information on topography, soil, drainage, location of waters, field tiles, manure treatment facilities and wells; and 5) a farmstead plan. IDEM will approve the application if it complies with this statute, water pollution control statutes and rules, and officially adopted policies and statements.

Existing CFOs must submit manure management plans once every five years. The WPCB is empowered to adopt rules regarding construction of such facilities, manure containment, as well as manure application and handling, consistent with best management practices designed to reduce manure movement off-site by runoff or erosion. The standards of these rules should give consideration to USDA publications. A new rule governing CFOs is to be submitted to the WPCB in the near future.

327 IAC 5-4-3 regulates the EPA-mandated special NPDES program for concentrated animal feeding operations (CAFOs). CAFOs are point sources. Absent certain special circumstances detailed in the rule, to be regulated as a CAFO an operation requires 1000 slaughter and feeder cattle, 700 dairy cattle, or 2500 swine weighing over 25 kilograms (approximately 55 pounds) each. IC 13-18-10 governs CFOs, which are defined as operations of at least 300 cattle and 600 swine or sheep. IC 13-18-10 therefore regulates more feeding operations than the EPA-mandated 327 IAC 5-4-3. IC 13-11-2-40 further defines as a CFO any animal feeding operation, regardless of the number of animals, that is causing a violation of water pollution control laws, any rules of the WPCB, or IC 13-18-10.

#### Nutrients

IC 15-3-3 regulates commercial fertilizer, requiring that: it must be registered and properly labeled; it is subject to inspection and analysis by the State Chemist; and bulk fertilizer must be stored to minimize release and protect waters.

#### Pesticides

IC 15-3-3.5 requires pesticides to be registered with the State Chemist and properly labeled. The Pesticides Review Board (PRB) is empowered to adopt a list of "restricted use" pesticides if it finds that the characteristics of the pesticide require that rules are necessary to prevent undue hazards to persons, animals, wildlife, lands, or waters. IC 15-3-3.6 regulates the use of pesticides

### **Forestry**

IC 14-23 concerns forestry management, wherein the legislature declares it public policy to protect and conserve topsoil. The statute establishes a seedling-planting program. Also, the state forester is required to inspect areas in state forests where timber is removed by arrangement to determine if such activity is conducted in a manner that conserves and protects topsoil. Open burning in an emergency fire hazard area is prohibited.

IC 6-1.1-6 provides for certain privately owned timber-producing land in parcels of 10 acres or more to be voluntarily set aside as classified forests. Its purpose is to encourage better private woodland management and protection. These forests are set aside for the production of timber and wildlife, the protection of wetlands, or the control of soil erosion. Such lands will be assessed at only \$1 per acre for tax purposes, provided the landowner complies with a timber management plan provided by the DNR. The classified forest is to be inspected annually by the state forester to insure compliance with the plan.

Indiana promotes the Forest Improvement Program (FIP) and the Forest Stewardship Incentive Program (SIP), the former being concerned with the supply of wood products, and the latter with encouraging stewardship for privately owned woods. These programs require forest owners to follow a plan approved by a district forester, and involve cost sharing for eligible expenditures, including tree planting, timber stand improvement, and critical area stabilization.

## Urban Areas

### Urban Runoff

327 IAC 15-5 regulates storm water runoff associated with construction activity. It is known as "Rule 5". The purpose of this rule is to reduce pollutants, especially sediments as a result of soil erosion, in storm water discharges into surface waters where construction disturbs 5 acres or more. The rule requires measures such as sodding, mulching, sediment detention basins, and sediment control practices such as filter strips, diversions, straw bales, and slope minimization. It also provides that appropriate measures must be taken to minimize or eliminate wastes or unused building material including garbage, debris, and cleaning wastes from being carried from a site by run-off. Maintenance of erosion control measures after termination of construction becomes the responsibility of the occupier of the property. 327 IAC 15-5-7 provides that appropriate measures must be taken to minimize or eliminate wastes or unused building material including garbage, debris, wastewater, and cleaning wastes from being carried from a site by run-off.

The state agency involved in the planning, siting, and developing of roads, highways, and bridges is the INDOT. INDOT must prepare a Categorical Exclusion, an Environmental Assessment/ Finding of No Significant Impact, or an Environmental Impact Statement (EIS) before beginning construction. An EIS is an extensive evaluation of the expected significant effects of the project on the environment. See IC 13-12-4 and 327 IAC 11. The National Environmental Policy Act (NEPA), 42 USC 4321 requires an EIS if federal funding is involved in highway/bridge construction.

Also, one who contracts with INDOT to perform the construction work must comply with the current version of INDOT specifications concerning erosion control and other non-point source pollution. 327 IAC 15-5 is incorporated in highway contracts for erosion control.

IC 14-22-9-10 requires (with a limited exception for adjacent landowners or tenants) a permit from DNR for chemical treatment of aquatic vegetation in public waters. Permits include required use of certain management measures to prevent the pollution of public waters.

Certain construction projects require a permit from DNR, and such a permit can be written to include conditions to protect the environment from erosion and sedimentation, if appropriate. A permit is required for the following:

- to construct in a floodway, IC 14-28-1;
- to "place, fill, or erect a permanent structure" in a navigable waterway, IC 14-29-1;
- certain ditch/drain activities within 1/2 mile of a lake of 10 acres or more, IC 14-26-5;
- to extract sand, gravel, minerals, IC 14-29-3;
- to construct a channel, IC 14-29-4; and
- to change the level of the water or the shoreline of certain public freshwater lakes (excluding Lake Michigan, among others) by excavating, filling in, or otherwise causing a change in the area or depth of, or affecting the natural resources, scenic beauty, or contour of, the lake below the waterline or shoreline, IC 14-26-2.

### Onsite Disposal Systems

ISBH rule 410 IAC 6-8.1 sets up a residential sewage disposal permitting system. Local boards of health and health officers with ISBH oversight administer the system. A thorough on-site evaluation is required, including evaluation of the soil profile, before a permit can be issued. A permit is required for residential



sewage disposal (RSD) systems for new residences, for certain expansions of residences with RSDs, and for repairs and alterations of existing RSDs. Certain dwellings will be provided with RSDs. Inspection authority is included in the rule.

410 IAC 6-10 provides for ISBH regulation of commercial on-site wastewater disposal facilities. A permit is required for construction, installation, and modification of such facilities.

IC 13-18-12 requires a wastewater management permit for cleaning sewage disposal systems or transporting, treating, storing, or disposing of wastewater. 327 IAC 7 details permitting, cleaning, and disposal requirements for sewage disposal system wastewater.

#### Household Waste

IC 13-18-9 prohibits the use, sale, and disposal of phosphorous detergents and alkyl benzene sulfonate detergents. IC 13-20-16-7 makes it against the law to improperly dispose of a lead acid battery. Water districts, sewage districts, and solid waste districts are empowered by IC 13-26-5-4 to prescribe the manner of waste disposal, to prevent pollution of the water supply, and to prohibit or regulate discharges into sewers of detrimental liquid or solid waste. For general authorities that would control improper disposal of household waste, see IC 13-30-2, IC 16-19-3-4, IC 34-19-1, IC 35-45-3, IC 36-9-30-35, and 329 IAC 10-4 (all are detailed on pp.2-4).

#### Improper Disposal of Used Oil

IC 13-30-2-1 prohibits a person from applying or allowing the application of used oil to the ground, except with a permit. 329 IAC 13 provides new rules for used oil, consistent with federal requirements at 40 CFR 279, but these presume that the oil is to be recycled, "unless a used oil handler disposes of used oil or sends used oil for disposal" 329 IAC 13-3-1. IC 13-30 especially Chapter 9, which provides that in addition to criminal penalties, a citizen or the state may bring an "environmental legal action" for any release of a hazardous substance or petroleum into the soil or groundwater that poses a risk to human health and the environment, to recover the costs of removal or remedial action.

#### Landscape Maintenance and Turf Management

IC 15-3-3 regulates commercial fertilizer. IC 15-3-3.5 requires the registration and labeling of pesticides, and a listing of "restricted use" pesticides. IC 15-3-3.6 controls the use (e.g. no one may use a pesticide in a careless or negligent manner), storage, and disposition of pesticides in general, and the use of "restricted use" pesticides in particular.

#### Yard Trimmings

IC 13-20-10-4 regulates composting facilities as to location, design, and operation, to protect groundwater and surface water. Some examples of the requirements for such facilities (there are certain exceptions to these) are: the composting facility must be operated to adequately control runoff and manage leachate; it must be located outside the 10 year floodplain, or have controls -Publicly Owned Treatment Works (POTWs) are excepted; the facility is not to be located within 200 feet of a well or a residence; and it is not to be placed within 5 feet of a water table, or if so, it must have controls.

#### Run off from roads and highways

Road salt, sodium chloride and calcium chloride, are used to maintain safe roads, highways, and parking lots under icy conditions during winter months. Cyanide compounds are often added to reduce clumping. The runoff from the paved surfaces carrying the chloride and cyanide compounds can result in surface and ground water contamination. The storage of these materials is also an issue of concern for water quality. INDOT is developing technology, which promotes the measured use of salt on Indiana highways. The technology includes computer evaluation of needs based upon changing highway conditions as identified by INDOT trucks in the field. The goal is to provide highway transportation safety and snow

maintenance in a manner that is economical and sensitive to the environment. INDOT, IDEM, Purdue University Department of Civil Engineering, and the U.S. Geological Survey have joined and outlined their cooperative efforts to reach this goal.

In addition to salt, IDEM addresses the water quality impacts of heavy metals, oils and greases, and suspended solids. Temperature sensors have already been placed along the Indiana Toll Road in Lake County to help monitor salt needs. Toll Road trucks are calibrated by computer to help assure that salt placement is effective without being excessive. In April 1998, INDOT and IDEM announced their plans to build a wet detention pond and wetlands to catch runoff from one of the Indiana Toll Road's interchanges in Gary.

## **Marinas and Recreational Boating**

### Marina Construction

Marina construction requires a permit from DNR issued under IC 14-29-1-8 for erecting a structure in a navigable water, and must satisfy the requirements of 312 IAC 6-4 for marina licensing. If a floodway permit under IC 14-28-1 is also required, only one permit, under IC 14-28-1, will be issued, but it must incorporate the requirements of IC 14-29-1. Marina construction also requires a permit from the ACOE under Sec 10 of the Rivers and Harbors Act if in a navigable water. If such activity involves "placing fill" in navigable or non-navigable waters, a 404 permit from the ACOE and a 401 water quality certification from IDEM will be required. This will only be issued if the project will not violate the narrative standards of Indiana's water quality rules for the Great Lakes system, 327 IAC 2-1.5.

On Lake Michigan and other navigable waters, a permit under IC 14-29-1-8 is needed to construct a seawall. Such activity in a "floodway" would require a permit under IC 14-28-1. Environmentally protective conditions may be written into the permit. For certain freshwater lakes, seawall construction would probably require a permit under IC 14-26-2.

Underground storage tanks must be constructed and installed according to EPA-inspired standards detailed at 329 IAC 9, by the authority of IC 13-23. Corrective action plans for cleanup of spills must be submitted to IDEM. Also, both 329 IAC 9 and 327 IAC 2-6.1 require reporting, containment of, and response to, fueling station spills.

### Marina Waste Facilities

312 IAC 6-2-6 defines a "marina" as a permanent structure that can service at least five boats at a time and which provides, for a fee, engine fuel, docks, boat repair, boat sales, or boat rentals. A marina located on the state's navigable waters that can accommodate boats equipped with a wastewater holding tank, must either: 1) obtain a permit from IDEM under 327 IAC 3-2 for the construction and operation of a wastewater treatment facility or a sanitary sewer; 2) obtain a permit from ISDH under 410 IAC 6-10 for the construction of a commercial on-site wastewater disposal facility; or 3) secure an alternative written approval for wastewater disposal from an authorized governmental agency. 312 IAC 6-4-3.

Regarding the creation and control of pumpout facilities, IC 16-19-3-4 empowers ISDH to adopt rules regarding public health nuisances, pollution of the water supply, and disposition of excrement and sewage.

IC 14-15-2-8 provides that a person on a watercraft may not throw, dump, place, or deposit "any litter, filth, or putrid or unwholesome substance, or the contents of a catch basin or grease trap, in or upon the water or banks of public water"

IC 14-22-9-6 provides: "All offal or filth of any kind accruing from the catching, curing, cleaning, or shipping of fish in or near the water of Lake Michigan shall be burned, buried, or otherwise disposed of in a sanitary manner that: 1) does not pollute the water; and 2) is not or does not become detrimental to public health or comfort".

## **Hydromodification**

### Channel Modification

According to IC 14-29-4, a channel is not to be constructed without authorization from the Natural Resources Commission. This authorization is not to be given if the project will cause "undue effects" on fish and wildlife resources or the water level, nor if the project will adversely affect the public health, safety, and welfare.

Indiana has a Drainage Code, IC 36-9-27 that regulates certain open or tiled channels. If a person wants to connect a private drain with a regulated drain, the County Surveyor can only grant the request if he determines that no pollution will result and that the regulated drain can handle the additional flow of water. If the connection would result in the discharge of liquid waste causing pollution, written IDEM approval is required, unless the discharge is from a one or two family residence.

IC 14-28-1 requires a permit for excavations in a floodway. IC 14-29-1-8 requires a permit for removing water or material from navigable water. If both are required, only one, the "flood control" permit, IC 14-28-1, will be issued, but the terms of IC 14-29-1 must be incorporated into it. Neither will be issued if there are certain undesirable impacts unless appropriate permit conditions can be added.

IC 14-26-5 requires a permit for certain digging and draining activities within 1/2 mile of a lake of 10 acres or more, such a permit only to be issued if the water level is not endangered and no detrimental effect on fish, wildlife, or botanical resources will result.

Altering the water level, changing the shoreline, and altering the lakebed of certain lakes requires a permit under IC 14-26-2.

### Dam Management

IC 14-27-7 regulates dams in Indiana, but safeguards against erosion and sedimentation resulting from construction are addressed by 327 IAC 15-5, which is known as "Rule 5".

Dam construction requires a permit under Indiana's Flood Control Act, IC 14-28-1, and under IC 14-29-1-8, if in a navigable water. If both are required, only one, the "flood control" permit, will be issued, but the terms of IC 14-29-1 must be incorporated into it. Neither permit will be issued if there will be environmentally harmful effects. Permit issuance presents an opportunity for writing conditions requiring erosion reduction and sediment containment.

Construction of a dam in navigable waters requires permits from the ACOE under Section 9 of the Rivers and Harbors Act and 404 of the CWA. (In non-navigable waters only a 404 permit is required). A 401-water quality certification must be obtained from IDEM. Such certification typically contains environmentally protective conditions, e.g. storm water and erosion control measures.

### Chemicals and Pollutant Loading

IC 14-22-9-10 prevents chemically treating aquatic vegetation in the public waters or boundary waters of the state without a permit issued by DNR.

## **Wetlands**

Wetlands projects that require a federal 404 permit (33 USC 1344) from the ACOE and a "401" water quality certification from IDEM will be required to adhere to certain conditions that become a part of the federal license or permit. A typical condition would be compensatory mitigation for wetland impacts, such as restoration of pre-existing functions in damaged and destroyed wetlands.

In addition, many activities within wetlands and other special aquatic sites require permits from, or are otherwise regulated by the DNR. For example, a permit cannot be issued for an obstruction, deposit, or excavation within a floodway that will be "unreasonably detrimental to fish, wildlife, or botanical resources."<sup>4</sup>

In 1990, the DNR, INDOT, and FWS developed a memorandum of understanding for wetland mitigation ratios. Mitigation ratios for projects of the INDOT range from 1:1 to 4:1 or higher. A wetland and habitat mitigation nonrule policy document addresses persons not covered by the memorandum of understanding. This nonrule policy includes a general framework for the assessment and determination of wetland or habitat compensatory mitigation where a construction project is likely to reduce or degrade an existing wetland or habitat. The DNR uses the nonrule policy during the review of permit applications and when commenting on federal licenses such as Section 404.

The DNR developed a comprehensive state wetland conservation plan in 1994. More than 900 participants from across the state assisted in preparation of the plan to provide guidance for wetlands conservation efforts. In addition, the DNR participates with several other organizations in the Southern Lake Michigan Coastal Wetlands Project, which is funded through a grant from the North American Wetlands Conservation Act. The project works to protect and restore wetlands.

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<sup>4</sup> IC 14-28-1-22

## **Chapter 15: Discussion of Comments Received During the Scoping Process**

The following chapter describes the public comments that were submitted on the Lake Michigan Coastal Program (LMCP) Scoping Document, June 2001. Comments transcribed at the public meetings and submitted during the comment period are included. The content of the comments ranged from support (or opposition) for the LMCP to specific comments on elements of the program document. Responses are included for comments that either asked a question or made a suggestion about a specific item.

There were a total of 54 comments submitted, and overall the vast majority of comments were supportive of the LMCP and participation in the Coastal Zone Management Program. Some people submitted multiple comments or comments both at the public meetings and during the written comment period. All comments were extremely helpful in understanding the priorities and concerns of the citizens of northwest Indiana. Public input will continue to be an important component to the LMCP.

### **PUBLIC MEETING COMMENTS**

#### **June 26, 2001 – MICHIGAN CITY**

##### **Comment 1: Mike Ryan, Northwest Indiana Steelheaders:**

I was involved with this when it began and the public comment was an important component. Once the Blue Ribbon Advisory Panel was formed, a lot of the public comments were taken out of the picture. The *E. coli* taskforce, which stemmed from the Blue Ribbon Panel, has been very successful and has done a lot of good research. A lot of public access sites have been lost due to political involvement and it now costs twice as much to use the Lake. Since 1995, the quality of life has gone down in the northwest Indiana region due to loss of public access sites. We are paying more to use the facilities, but the facilities are not being operated adequately. Coordination with industries and other groups to provide public access sites has not been very successful. Keep the public involved as you move through the process.

##### **Comment 2: Tom Anderson, Executive Director of Save the Dunes Council:**

Our organization has followed the LMCP in its early attempts as well as this one. We support Indiana joining the federal Coastal Zone Management Program, as 99.9% of the coast in the US recognizes there are some tremendous benefits to improving the quality of life, water quality, and to provide additional resources to assist in sustainable development efforts. We participated in the early 90's Public Workgroups, and I served on the Blue Ribbon Advisory Panel and various other organizations. There will be a lot of opportunities for partnerships and cooperation among agencies and organizations and we should continue to work on ongoing efforts.

The region has the most unique environment in the state. We have some very important natural resources that are threatened. Another important issue includes public access which will be enhanced through the LMCP. We will submit more specific comments as the effort continues. As stated, there will be no new laws or regulations required to gain federal approval. We would like to see the focus of the program be on the fishery issue in Lake Michigan because it is important to our economic future, especially as we try to diversify our economy. Beach closings and water quality need to be addressed as the program moves forward. Thanks for the opportunity to comment.

**Comment 3: Doug Bley, Bethlehem Steel:**

I am here as both a concerned citizen and a member of a corporate group. I commend the DNR for a well-written document, but would recommend some moving around of chapters, especially Chapter 5, which should be moved to the end of the document. I have four comments: 2 major and 2 fairly minor.

Try to get the DNR out of the main picture, and have them act more as a facilitator. Federal lands should not be excluded from the program, especially considering the extensive amount of coastal land in Indiana that is owned by the National Lakeshore. In addition, this exclusion does not foster the “partnership” that the document is trying to promote. Examples of the exclusion are on pages 1-3, 3-7. These statements appear to conflict with the statements on page 1-4 in Chapter 1.

Secondly, on page 4-9, I propose that the Lake Michigan Marina Development Commission be changed to the Shoreline Advisory Commission established by the Indiana Statute in 2001. I think the Shoreline Commission should be used as the final decision medium for how the funds will be allocated. The DNR can be used as the facilitator to rank priorities and recommend selected projects. Also, on page 4-16, I think the Porter County Environmental Department should also be listed.

**RESPONSE:** Requirements under the Coastal Zone Management Act (CZMA) include that all federally owned or leased lands be excluded from the state’s coastal zone (Indiana’s Coastal Program Area). This requirement relates to the fact that the federal dollars that will be available to Indiana upon approval of the LMCP cannot be used on federal lands or by federal agencies. These funds become a grant to Indiana and can only be used by the state and by local agencies and non-profit organizations through the Coastal Grants Program. The exclusion of federally owned or leased lands does not exclude any federal agency from meeting the Federal Consistency requirements outlined in Chapter 11. Nor does the exclusion prevent Indiana from coordinating and forming partnerships with federal agencies, such as the Indiana Dunes National Lakeshore. Indiana is unique in that a large portion of the coastal region is protected by the National Lakeshore. The LMCP will work to improve coordination and planning with the National Lakeshore.

The Lake Michigan Marina Development Commission has not been disbanded. It is still an active Commission that will continue to work toward comprehensive planning of marina development and operation. In the 2001 legislative session, House Bill 1688 was passed to add a member to the marina commission who is appointed jointly by the executives of Burns Harbor, Porter, Beverly Shores, Ogden Dunes, and Dune Acres. Also in 2001, House Bill 1935 established the Shoreline Development Commission. The purpose of the Commission is to prepare a comprehensive master plan for redevelopment of the Lake Michigan corridor that addresses remediation of environmental contamination; accounts for economic development and transportation issues relating to environmental contamination; and establishes priorities for development or redevelopment of qualifying properties. The Shoreline Development Commission has been added to Chapter 4 as an entity the LMCP will work with to achieve consistency. In addition, the DNR has a representative that will serve on the Shoreline Development Commission.

The DNR will form a stakeholders advisory group to provide input for the LMCP. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region. More information on the grants program can be found in Chapter 7.

The Porter County Department of Environmental Management is not delegated to implement specific state laws and policies locally.

**Comment 4: Ed Land, Perch of America:**

I fish Indiana for perch and salmon. Non-point source pollution is of major concern to Indiana's Lake Michigan region. The fishery was lost in 1985-1986. The value of the Port of Indiana allows enormous amounts of bacteria and exotic species to be imported to the region. These bacteria outbreaks have caused a major loss of key fish species. There is no checking of the ballast and human wastewater in the holding tanks on the ships. Coastal Management is like the east coast programs, which have allowed the influx of the Nile virus and the Asian mosquito. We will have to do something with the wetlands along the shoreline, and I am greatly disturbed about the fish. I do not know how you are going to keep the Nile virus mosquito from breeding in the wetlands. We have allowed them to dump the zebra mussel in Lake Michigan that has wiped out the white fish because the white fish eat the zebra mussels and are becoming extinct in the lake. It is hurting the commercial fishery. There is much beach pollution. Every ship comes in with 158 tons, minimum, ballast water, documented in 1992 by EPA and still nothing is being done. All of this is being supported by the shipping industry and China. There used to be hundreds of charter-boat captains, but now you can hardly get a boat in and out because the water is so shallow because there is no money for dredging. Bait shops are out of business. US Steel will not allow us on the US Steel wall; Miller West should be made a park and put in there as a public access spot. There is no money for the fisheries. The chemicals needed to treat the mosquitoes from China and Africa will tremendously affect the water, and many people will lose their pets to this disease. We must control the spread of the viruses before it gets here.

**Comment 5: Jeanette Neagu, LaPorte County League of Women Voters:**

Currently, only two of 35 eligible states do not participate in the federal CZMP; Indiana is one of those two. This means Indiana is not eligible to receive federal funds to improve the region. The LaPorte County League of Woman Voters supports the development of the Lake Michigan Coastal Program. Much of Indiana's Lake Michigan coast has been affected by urban decay that will be part of significant funds and expenditures to rectify. Federal resources, which may be available after adoption of the Coastal Program, can assist in restoring these areas.

Coordinated efforts at various levels are necessary to address coastal problems. The program would encourage and facilitate such efforts. It will enhance economic and recreational opportunities for northwest Indiana as well as provide for the reclamation and maintenance of coastal ecosystems. It will not take away local control and will create no new laws. It will ensure cooperative efforts are established to protect and enhance the environment and the communities in the region.

The League believes the resources should be protected for future availability and pollution should be controlled to preserve ecosystems and public health. LMCP will provide a means to accomplish this goal and we strongly endorse your efforts.

**Comment 6: Bill Theis, Pines Township Trustee:**

A gentleman asked earlier what had changed in the development of this program from 1972 to 1995, and the only thing that has changed is that the amount of grant availability has increased from \$525,000 to \$600,000. Otherwise there is no significant difference. I would like to read a letter as part of public comment. It is addressed to the Division of Water, DNR:

"I am opposed to the Coastal Zone Management Program. According to the January 1994 newsletter published by the DNR and NIRPC, there are only 45 miles of coastline in Indiana, most of which is already used in some way. In 1995, the Indiana Dunes National Lakeshore will not be subjected to the program. The program will add bureaucracy and it is not needed. The LMCP will force landowners to adhere to EPA non-point source pollution requirements. It is not a new law but will implement and trigger old laws, which is the federal Coastal Zone Management Act. Since 1974, Indiana has received \$1.1 million in federal money and \$350,000 in state funds for planning a coastal management program.

This is a waste of our tax dollars. This is not free money that Indiana will get if it does not stick its hands into the federal cookie-jar; they are our tax dollars. If grants are received, they will have to be matched 4:1, unless this has changed since the mid-90s. Again, it is a waste of money, with another layer of bureaucracy and little benefit to the property owners”.

This opposition letter, signed by 1400 people from 1995, was not incorporated into either the Public Workgroups or the Blue Ribbon Advisory Panel comment section. Neither of these groups have ever endorsed or recommended proceeding with a coastal management program. We want all 1400 copies of the letter, unedited, to be added to the comment section of the draft Environmental Impact Statement. The governor needs to know that there are seriously concerned citizens out here. Again, I am opposed to the program.

**Response:** The letter read into comment is not based on the current LMCP, released June 2001. The LMCP is based on Indiana’s existing state laws and regulations. All federal agencies, including the National Park Service (Indiana Dunes National Lakeshore), will be required to be consistent with the LMCP under the Federal Consistency provisions discussed in Chapter 11.

Grants received through the Coastal Zone Management Program will have to be matched by a 1:1 ratio. The match for funds from the Coastal Zone Management Program can be in-kind services. This includes matching from salaries, donations, volunteer time, and other non-cash alternatives. The match will be accomplished by using existing salaries of state personnel that currently work in the coastal region. A match will also be required of any recipients of grants from the LMCP. A more specific description of matching requirements was added to Chapter 7 of the LMCP.

Copies of the letter submitted in 1995 were not included in this 2001 DEIS because they were not submitted in response to the LMCP Scoping Document released June 2001.

**Comment 7: Lou Donkle, Duneland Beach Association:**

I support Indiana joining the coastal zone management program. In 1995-1996, there was concern about the high lake levels, and we worked with the International Lakes Coalition to keep houses from being destroyed. If the lake level had been any higher, it would have been disastrous. Had not the St. Lawrence Seaway and other areas been dredged, this would have been a disastrous time for landowners along the lakeshore. The scope of the program should include flow control devices to control the Lake Michigan level, as it is controlled in Lakes Huron and Erie. This needs to be a joint effort between the US and Canada.

High lake levels are bad and low lake levels are bad; there is no reason why Lake Michigan and Lake Huron levels cannot be controlled the same way that Lake Superior and Lake Ontario have been controlled. It should be a goal of this century to see that these projects are done.

**Comment 8: George Neagu;**

I am a private citizen who cares for water purity and I am concerned about pollution. Michigan has approved oil drilling 1000 feet off its coast in Lake Michigan. Indiana needs this program. There is a concern and a need for a macro-vision of what we want in the coastal vision. The examples of grants from the presentation represent what the citizens want, but are miniscule. It does not get the macro done if we focus on the minor projects. This needs to be a voluntary program with no restraints or controls; it sounds very democratic.

People will be partnered – but how effective will this be for the macro-vision of the environment? I remember the commercial with the Native American with the tear in his eye; well, Native Americans are



not the only ones with tears in their eyes. I am sure everyone here has tears in their eyes because of their concern about the environment in America. Do not lose the macro-vision. If I were in the DNR, I would be a social activist and stimulate everyone in DNR to walk off the job for one day and protest what is happening to our waters. I know the people who support this program as well as those who are opposed to it for some reason want the best for our coastal region. We all want what is best for the coastal region; I hope we will reach for a higher goal.

**Comment 9: Anonymous**

I do not need more government. I do not need more laws and regulations. We need to address the major problems we have now with a common sense approach. I called the Conservation District office and asked them how do I control the weeds for an acre lot of asparagus and sweet corn? They said pull them. But this is not a small garden; this is an acre-lot. It is not big enough for commercial equipment and I cannot buy enough herbicide because I do not have commercial equipment. I think I could read a label and adjust it appropriately for my lot. Do I need more laws there? In order to burn a brush pile, I have to do it surreptitiously, so someone does not call the cops and the fire department comes. I had a discussion with ----- a few years ago, and asked her what s/he is doing about big industry with the big exhaust pipes? They blow exhaust out at thousands of miles an hour, and dump kerosene by the ton. S/He said there is nothing s/he could do about that. S/he complained about the ozone because ----- has problems, etc. My little exhaust pipe here on the ground does not affect the ozone nearly as much as the rockets we shoot up into the atmosphere that burn tons of fuel per second. We have government facilities in the US that are the most polluted areas in the world. I do not need more regulations on my little farm. Why are we not dealing with the major problems we have? We need a common sense approach to the major problems that are killing us – pollution, and others of an ecological type. There is a fear to oppose or to get involved in those issues because people feel they are too big. I don't think so. I am sorry I had to be as radical as I am, but that is the way the government treats me.

**Response:** The LMCP does not create any new laws or regulations.

**Comment 10: John Pflum, Potawatomi Audubon Society:**

I would endorse enthusiastically Indiana's participation in the Lake Michigan Coastal Program. I think it will encourage cooperation in solving problems affecting the quality of water and coastal habitat in our area. It will make available additional financial resources to address the problems.

I feel embarrassed and saddened that Indiana is one of two coastal states which have been part of the problem, not the solution, leading to coastal degradation. I applaud the efforts to get Indiana involved- thanks to all those who have persevered in this long struggle.

**Comment 11: Peg Mohar, Shirley Heinze Environmental Fund:**

The plan mentions the great biodiversity of northwest Indiana. We have approximately 1400 plant species that are the underpinnings for insects, amphibians, birds, mammals, etc. There are rare plants that are now so rare they cannot be found.

Though development is part of the threat to biodiversity, the existing natural areas are rapidly degrading because of exotic species such as garlic mustard, purple loosestrife, etc. Unless aggressive tactics are employed, our biodiversity will dwindle further. I would urge high priority for this problem. I support this initiative.

## **June 27, 2001 – HIGHLAND**

### **Comment 12: John Hawkins, Conservation Chairman, Lake County Fish and Game Protective Association:**

Based on information from our own fish and wildlife service, in the mid 1970s, Dingle-Johnson was attached to the Pitman-Robertson Act funds. Hunters have been spending an 11% excise tax on all equipment since 1938, and fisherman have had a 10-11% excise tax on their equipment since the 1970s. There is approximately \$38 billion spent on fishing expenditures in this country and 6% is spent in the Great Lakes region. The average angler takes 10 trips in the Great Lakes per year and spends about \$360 a year. It is a shame that there is no descent public access in any of the counties. I would like to protect public access and ensure that there are reasonable parking lots and handicap accessible facilities.

### **Comment 13: Representative of State of Indiana on National Association of Conservation Districts' Great Lakes Committee:**

I am greatly concerned about sewer overflows, especially in the Milwaukee, Wisconsin area. They claim they only open their floodgates 5-6 times per year, but I am guessing it is a lot more than that. It will be the downfall of the Great Lakes if sewer overflows cannot be stopped. That is what creates most of the beach closings, etc.

### **Comment 14: Janet Moran, City of Hammond.**

I am concerned with the restoration and cleanup of the Grand Calumet River. There has been an influx of toxic sediments. We are also looking at the restoration of the river's shoreline and to create a River Walk. At one time, this river was navigable, and we want to restore it to the way it was. I am also interested in historic preservation, especially in regards to the cultural side of the region. We need to preserve the ethnic cultures in the region.

### **Comment 15: Ray Cooper, President of Lake County Fish and Game Protective Association:**

In the Scoping Document, page 9-9 states "A survey of fishing access for Lake Michigan and its tributaries completed in 1979 concluded that 'the Lake Michigan shoreline offers a most diverse, abundant and consistent fishery resource, as well as a deficiency of access to that resource.'" There are a number of duck hunters in our club, who have dwindling access to the lake since the development of the marinas and casinos. Last year, we struck a deal with the Marina Commission and the harbormasters to allow our hunters to launch their boats early in the morning. If they had to argue for two hours and would miss the best hunting opportunities, then they may as well go home. We had a successful duck-hunting season last year, and we want to make sure that it is not forgotten. Make sure that the cooperation with the Marina Development Commission and the harbor-masters continues.

### **Comment 16: Vollie Riskin, Lake Michigan Interleague Group, League of Women Voters.**

There are approximately 40-50 Leagues of Women Voters in the Lake Michigan watershed in Indiana, Illinois, Wisconsin and Michigan. Founded in 1967, the League of Women Voters adopted shoreline management at our 1976 annual meeting and reaffirmed our stand at each successive annual meeting. We believe a comprehensive plan must include all members of the public in and around the shoreline region.

Matters of shoreline management, including pollution, restoration and pure water for Lake Michigan, can best be resolved by participation by all Great Lakes states in a cooperative effort of state and federal governments. The primary driving force behind a successful plan must be continuous public participation incorporated into the program. We are very much in support of the implementation of this program and we applaud the DNR.

We are particularly glad that you are holding public meetings, because this fits exactly with how we see a successful program being implemented. In particular, this group is interested in the restoration and development of Wolf Lake, which is on the border of Indiana and Illinois. We want to restore this lake to have clean water. We want Indiana and other areas to have responsible coastal management programs.

There should be strict limitations on shoreline uses. We favor scrutiny of any economic development on the shoreline. It is possible that the development of the shoreline can coexist with industries, if it had to. There are ways to have multiple uses and everyone be content. There should be access to the lake, without relaxation of the current standards. We have common goals and we are glad to be a part of this effort.

### **June 28, 2001 – PORTAGE**

#### **Comment 17: Tony Arvey, Lake County Fish and Game.**

I am representing this environmental, non-profit group. This seems very similar to the Blue Ribbon Group and Public Workgroup. Our group is an environmental protection group. One of our major topics of conversation is public access. I believe that there is only one public access site that the DNR has sanctioned on Lake Michigan which is wheelchair accessible. The rest are Public Marinas where we have to pay for parking and not all are practical for people in wheelchairs. There are also many private marinas that are not very practical for wheelchairs. We have nothing between the Michigan Line and Michigan City. We have tried in the past to open up the Lake Street area pier through petitions, but it has not been successful. They have tried to obtain the area at Buffington Harbor and no success there either.

We would like the DNR's help to get a little more accessibility on the lakefront to the fisherman or to families with kids. What better way to teach a kid about the outdoors then to go fishing? If you take the 45 miles of shoreline and all of the water along that, how much water do we have bordering one of the greatest resources we have in this region versus all of the reservoirs, lakes, and rivers in the rest of the state? Think about that! One public access site for all of that water, and the rest of it, we're at everyone else's mercy.

#### **Comment 18: John Riley.**

I started fishing with a disability scooter in Kingsbury. LaPorte, Porter and Lake counties do not show any handicap accessibilities or ramps in the Indiana 2001 fishing guide. I went to the Hobart building commission complaining that I wanted to fish Deep River, but there is no handicap ramp. A woman there stated that they put in a 60-foot sidewalk that goes into gravel, but there is a four-inch drop-off. If you try to fish along the shoreline, the bank is too steep and you have to keep your right leg out to keep your scooter from toppling over. At the Indiana Port Authority, you're fishing about 20 feet off of the water and you're always getting snagged in the rocks. At the DNR site, which has handicap accessibility, you're 15 feet off of the water. If you try to catch anything, your line usually snaps. On the Kankakee River there's a handicap accessible site, and a couple of others in the region. I'm scouting around to find where they all are. I hope the DNR can help with handicap accessible access. Mainly, I'm interested how we can get Trail Creek, Little Calumet and Salt Creek accessible since Route 20 is not allowing parking.

**Response:** The availability and quality of handicap accessible access is an important priority of the DNR. Currently, the following areas provide handicap access to Lake Michigan shoreline: Hammond Marina, Whihala Beach County Park (fishing pier), Pastrick Marina (East Chicago), and Burns International Harbor DNR access site. However, as pointed out by the commenter, there are no DNR handicap accessible sites on Trail Creek or Salt Creek. The Division of Fish and Wildlife recognizes the need to identify suitable fishing sites along streams and will continue to seek opportunities to meet this need.

**Comment 19: Herb Read, President, Porter County Izaak Walton League.**

I have spent many years in the past trying to get reserved access to Lake Michigan. I support any and all improved access. This is a major objective of this program.

The use of the shoreline is generally fixed with industry and the National Lakeshore; I would like to bring some attention to the river ways, especially the Little Calumet, Salt Creek and Coffee Creek. Several years ago, those of use who were advocating portions of the Little Calumet River be added to the National Lakeshore, met with the mayor of Portage, and we said we wanted these areas available to the public and specifically with access to the fishermen. The mayor did promise, verbally, not in writing, to provide direct access where Salt Creek flows into the Little Calumet. We subsequently tried to get access to that area, so they don't have to park along I-94. We had hoped to get Ameriplex to make part of that area available, but we have not been successful in doing that.

The Porter County Park District Master-Plan calls for linear parks along the riverways. I hope that a portion of the funds will be made available to acquire some shoreline along the rivers and creeks. There are a number of non-profit organizations that have an interest in protecting the shoreline of the rivers and creeks.

I am also Vice President of the Coffee Creek Watershed Conservancy, which holds considerable amount of land on both sides of Coffee Creek. We have also spent a considerable amount of money to restore a partially degraded section of Coffee Creek. The fishing is improving. We are protecting of the Creek itself. It's not just a matter of protecting the water; you also must have protection for the land and wetlands along these corridors. This organization is also interested in working with landowners along Coffee Creek and even into the Little Calumet. We are trying to work out an agreement, either through a conservation easement or outright purchase of land along the edges of Coffee Creek.

This will continue as long as we have willing landowners and we continue to have funding. I hope that this program will provide some benefit for that endeavor. There are a lot of very worthwhile projects that could come about and compete for this money. We won't all get what we think we should get, but at least it's a step in the right direction.

**Comment 20: Tim Janotik, LaPorte County.**

We need to set the record clear. There have been a few blatant lies that you have told the audience. This is a spin-off of the federal Coastal Zone Management Act, and I hope you are not trying to deceive the public as you have in the past. This is unfortunate that you are doing it again. We tried to trust you a bit more when you dumped the Coastal Zone Management Act with a press release on March 6, 1996. That was after the establishment of the Blue Ribbon Advisory Panel, which was supposed to be non-biased, but was biased.

Now that you are seeking another effort to restore this program, it is the federal Coastal Zone Management Act, let's be truthful about that. Once this program is implemented, it does not go away, it is known as the most extreme sustainable development. The other 44 states have implemented it; I may be wrong on a couple of numbers, please correct me if I am. It ceases [to stop] industry, commercial, residential and port development along our waterways. You won't stop there.

Our local governments will be usurped by this program, if you go through the planning commission for your building permits, and then to the BZA for proper zoning, then state approval for any commercial or industrial permits, and now you have to sit and wait for the federal Coastal Zone Management Commission Zoning Board to approve your application. Then you have to have a hearing on it. There's no timeframe for forward movement. Development will just sit idle. Then you will have to bring in the

legal representation to get the process moving. These are just some of the horror stories that are already documented and are heading this way.

This will also involve the condemnation authority to take private property, whether commercial, industry, or private landowners own it. This is a devastating act that was created in 1972; you're trying to cover it up with smoke and mirrors. We are not going to buy it; we haven't bought it in the past.

We have more layers of bureaucracy in this state along the lakeshore than any other state within the United States of America, and you want to open another one. There are about 26 federal regulation bodies. We don't want it; we don't need it, and we certainly can't afford it. At this time, Porter County Commissioners and LaPorte County Commissioners have signed resolutions in opposition to the federal Coastal Zone Management Act, along with Beverly Shores, Porter, Pines Township, Chesterton, LaPorte County Council, and the list goes on.

For you to implement the act in this stage, you need approval of two-thirds of the three counties that affect Lake Michigan's watershed; Lake, Porter and LaPorte. During a Blue Ribbon Advisory meeting back in 1996, even Lake County pulled out – they didn't want anything to do with it. It didn't officially go on record, because when they were going to pass a resolution, the Governor had already bailed out of the program.

We still stand firm. We are opposed to this; we know it's a smoke and mirror for the federal Coastal Zone Management Act. It is a waste of taxpayer's dollars. Everything you've implemented in this preparation, from the very beginning, back to 1994 and 1995, all you've done is waste our tax dollars on meetings and more meetings that have produced nothing for the citizens of the state. We have no need for this type of bureaucracy; not now or in the future. Our local governments are doing a great job, they're moving forward through the local park systems. We don't need a national bureaucracy covering the three counties in developing a sustainable development plan. I don't know if you're trying to create a recession.

We have over 2000 petitions. These are hand written petitions by private property owners, industrial and commercial owners, and business owners that still oppose this plan. We will call the Governor's office; we will call the director of the DNR. We will call our elected officials to let them know our views. We are very serious about this. It hasn't worked, it never will work, and we certainly don't want it to work. I will get you a copy of all of these letters. We need these inserted into your book as public comment.

That is another point of contention from five years ago - you failed to publish these in the book then. In other words you lied to the people of Indiana that are taxpayers. You cannot fail the citizens of this state. They work too hard to be lied to. Don't fail us like the last administration failed us.

**Response:** In response to intense pressure on coastal resources, and because of the importance of coastal areas of the United States (including the Great Lakes), Congress passed the Coastal Zone Management Act of 1972 as amended (CZMA), (16 USC 1451). The program is administered by the Secretary of Commerce, who in turn has delegated this responsibility to the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management (OCRM). The Act authorizes a federal program to encourage coastal states and territories to develop comprehensive coastal programs. Currently, 33 states and territories have coastal programs approved by NOAA.

The CZMA affirms the national interest in the effective protection and careful development of the coastal zone by providing assistance and encouragement to coastal states to voluntarily develop and implement coastal programs for their coastal areas. The CZMA authorizes financial assistance grants under section

306 for program implementation to provide coastal states and territories with the means for achieving these objectives.

The Indiana LMCP outlines how the state can participate in the Coastal Zone Management Program using existing state laws and programs. It does not create zoning or other regulatory commissions. Nor does the LMCP change or take away decision-making authority or control from local government. By participating, Indiana will be eligible to receive federal funding to protect, restore, and responsibly develop resources in the Lake Michigan region. This funding will be used to develop partnerships and local projects with local government and non-profit organizations to address regional priorities.

The petitions submitted (also submitted by Bill Theis and discussed in Comments 6 and 46) were from 1995 and were not submitted in response to the LMCP Scoping Document released in June 2001.

**Comment 21: Reggie Korthals, Director of Environmental Planning at the Northwest Indiana Regional Planning Commission (NIRPC).**

It's important to note that NIRPC already has an Environmental Management Policy Committee that works on different environmental issues in the region. They will be working closely with the development of the Lake Michigan Shoreline Development Commission and the Lake Michigan Environmental Trust fund. The objective of this overall process is the preservation and restoration of the land within the Lake Michigan watershed. We are also the recipients of a regional watershed management grant from IDEM. This grant is for the development of a regional watershed management plan for the Lake Michigan watershed and the Kankakee watershed that falls within Lake, Porter and LaPorte counties.

Within the EMPC we have representation from the county parks, municipal parks, environmental agencies, government agencies, and concerned citizens. It is important to note that we anxiously approve and wait for the inclusion of Indiana into the Coastal Management Program. We realize that this is not another layer of government, this is an opportunity for us to pursue projects that we feel are important to the region. Not what the Commission feels is important, but what the people feel is important. They have identified and will identify projects that are high priority for restoration, for preservation for non-point and point source pollution, and for water quality in the area. It is important also to note that as we look at these projects now and in the future, funding is always going to be an issue.

The initial grant will allow us to bring people together to identify priorities, and through this process of public input, we will be able to determine what projects will take priority. As we look at developing a watershed management plan, it's going to be important to have good partnership with the DNR, and other agencies and organizations doing watershed projects. One of the main issues will be to research the groups who have received 319 funds for developing smaller watershed plans. Part of the regional picture will be bringing these people together, to identify the needs and what additional efforts need to be made. These funds will help us produce a long term and lasting document.

It's important for the people to realize that this is not going to be something that will add control or another layer of bureaucracy within our communities. The control of this program will be based within the communities. We already have groups that are meeting that are identifying environmental issues. We have an environmental water advisory group that will be forming in August that will be up to 35 members representing the entire spectrum of the region.

When people say that we are reverting back to something that happened before or are trying to distort the issues, this is not a management program, this is a funding program. And it will help us accomplish the needs that the region sees as important. NIRPC supports the process.

**Comment 22: Bill Theis, Pines Township. [See Comment 6]**

**Comment 23: Charlotte Read, Save the Dunes Council.**

I'm speaking today as an individual. The first time the Coastal Zone Management came to Indiana, what Indiana got out of it was a lot of inventory of natural areas and shoreline, whether natural or filled; a lot of very valuable information. No help was given to the coastal zone or to the Lake Michigan basin from those documents. I've heard this evening the recitation of 1400 letters, but I don't know where the people are now who wrote them five or six years ago.

This is the year 2001, and it's time that Indiana stepped up to the plate with 34 of the other coastal states to implement a program that will provide funding, cooperation and a way to make what's so good now, much, much better. I hope to see the program's administration work with NIRPC, the environmentalists, and local governments. So, I hope the office can be moved up here with Steve Davis. I think it's an important program. My tax dollars are probably going to the other 34 states. I think our state deserves our share.

We have the smallest coastline of the Great Lakes' states, and I tend to think it's probably the best. We share with three other states the largest freshwater lake within the United States and the second largest Great Lake. This is no time to say, "We can't afford it. We don't want it." It's time to do it. We want to do it. And I support the program and hope it will be in place as soon as possible.

***Comment 24 (Written by Charlotte Read):***

The DNR is to be commended for taking the scoping process for the CZM EIS to the public. I hope that the issue of lakefills and legacy pollutants and how CZM planning and funding might help these problems will be included in the scoping document and any plan that may be developed. I would like to see the program administered locally. I hope that funding could be used to acquire significant coastal areas that are not now protected either publicly or privately by land trusts.

**Response:** Restoration of coastal natural resources is an important component of the LMCP. Chapter 5 of the LMCP describes the programs that Indiana uses to address contaminated sites. Additionally, restoration projects are eligible for funding under the Coastal Grants Program. The process of identifying Coastal Areas of Significance, described in Chapter 8, will assist in providing additional attention to areas that require restoration due to legacy pollutants. For example, the Coastal Areas of Significance category "Areas of high natural productivity or essential habitat for living resources" includes, as criteria for designation, "Shoreline waters required for the reproduction of fish species other than salmonids" and "Riparian corridors". To address this comment, additional detail was added to specifically identify in-stream habitat as a criteria for designation so that it now reads "Riparian corridors and in-stream habitat". The process of identifying Coastal Areas of Significance is intended to increase attention and resources available to areas described in this comment.

**Comment 25: Sandy O'Brian, Dunelands Sierra Club.**

I support the LMCP. This program will create funding opportunities, not a new layer of government. With all the layers of government we have and the way things are run now, I think we could use a new layer of government to straighten it out. The non-point source pollution is an important source of pollution and it's important to address it. Water quality regulations will help out. We see it as a way to possibly buy land, such as river corridors. I think that projects like this will not get done unless our tax dollars are used.

**Comment 26: Martha Willis, President of the Porter County League of Women Voters.**

The League has no position at this point on the program, however we do have members interested in following the process. As part on the Indiana state League of Women Voters and the Lake Michigan Interleague, with members in Indiana, Illinois, Wisconsin, and Michigan, and many local leagues with frontage along the lake. We are very interested in the water quality, especially with non-point source pollution. Storm water runoff brings to the lake materials used both industrially and agriculturally, which is not beneficial to water quality.

We know that other states, specifically Michigan, have taken steps in the right direction. We want to see whether that preservation and protection of the water quality can be established here with this program. We also share the concerns that there are not enough public access sites and the ones that are present are not accessible to everyone. Nonetheless, our primary concern is the quality of the water. I personally won't fish in Lake Michigan because I don't think the fish are safe to eat.

The League will be carefully monitoring the process here and I assume our state league will take some action. We are extremely interested because in October will be our Lake Michigan Interleague annual meeting. The Leagues in the three county area will be sending delegations to that meeting. We will be very interested and we will be making comments, specific to water quality.

**Comment 27: Ray Esteviz, President of Northwest Indiana Steelheaders.**

We have been supportive of this program from the beginning and I just want to make it clear that we are still in favor of the funding and what will happen through the process.

**Comment 28: Jeffrey Gunning, Town Attorney, Beverly Shores and Ogden Dunes.**

I have clients in both Lake and Porter counties in the municipal law area. I am concerned about the boundary for the program. I understand that it is based on the watershed or the basin area. If possible to have those amended or changed, I would urge that they be changed and that the remote or distant areas be eliminated from the boundary. Especially, it bothers me that areas as far away as Crown Point, Merrillville, Valparaiso, and LaPorte are included.

I would recommend redrawing the line to parallel with the lakeshore and select a radius with a foot or mile determination. I understand that part of the goal of CZM is to consider point source contributions to the lake, so those streams and tributaries that flow to the lake could be included within the revised boundary. But I believe that the boundaries are too large and will interfere with the efficiency of the program if it moves forward.

The next comment is specific to the Coastal Areas of Significance. I would recommend that the shoreline have the most significant status of all of the areas that would be considered, so the shoreline would receive the highest point allocation in grant decision-making. After the shoreline as the highest category, the next highest point allocation should be the area immediately inland.

I noted in the materials that revitalization of ports is a listed category, and I would recommend that the ports and their revitalization be dropped as a priority. My view is that for the most part, the ports are self-sustaining and in some instances they are profit centers. It would be inappropriate to include them in the program as grant recipients. The urban waterfront category would be consistent with my prioritization of the shoreline. The shoreline protection category should see an emphasis placed on beach preservation and restoration. Most Indiana shorelines are protected by hard structures.

If you look at some of the other Great Lakes, specifically Lake Erie, most of the lake is protected by hard structures. I personally support the preservation and enhancement of beaches and am opposed to increasing the installation of hard structures.



**Response:** The Coastal Grants Program will develop annual guidance that includes priorities for funding that are identified by the public.

Waterfront revitalization is an eligible project under the Coastal Grants Program. The focus of waterfront revitalization for the LMCP is “re-development of abandoned, previously developed lands along the shore and those areas in or near urban areas disturbed by past development. Revitalization can entail economic redevelopment as well as restoring environmental integrity and the visual and functional quality of the abandoned area. The revitalization of urban waterfronts also involves planning for integration with existing communities and the need to improve public access to the shoreline” (Chapter 8, LMCP). Ports qualify as grant recipients; however eligible projects would be required to demonstrate broad and lasting public benefit, such as increased public access, and could not simply increase profitability of the port.

**Comment 29: Sandra Wilmore, Director of Save the Dunes Conservation Fund.**

I am in support of the LMCP. I commend you for developing the scoping document and believe you are right on target. We believe that implementation of the program will greatly facilitate efforts to preserve and restore the environment in this region. We look forward to assisting in the efforts.

***Comment 30 (Written by Sandra Wilmore):***

I would like to offer strong support for your efforts to establish and implement a Lake Michigan Coastal Program in Indiana. I applaud the tremendous work that you have accomplished thus far in producing the scoping document. In general, the priorities identified are on target and public participation is appropriately emphasized. This program will greatly facilitate ongoing work in the area to clean up the environment and make northwest Indiana a better place to live, work and recreate. I look forward to an improved quality of life in the years to come!

***Comment 31: Mike Ryan, Northwest Indiana Steelheaders.***

One of the things about the Great Lakes is that it is one-fifth of the world's supply of freshwater. To protect this we have to start at the top of the headwaters; you have to include the whole watershed. This program won't work if you delete part of the watershed. Every drop of water that falls in that watershed will end up in Lake Michigan, maybe a week from now or maybe 100 years from now. The whole watershed must be included in the program. NIRPC has been working on a number of watershed programs and a few others throughout the Great Lakes. It is essential that the whole watershed be included.

## **WRITTEN COMMENTS SUBMITTED DURING PUBLIC COMMENT PERIOD**

**Comment 32: Marsha Browne**

I am writing in support of the Coastal program for the Indiana National Lakeshore and beaches that make up the Lake-Porter-LaPorte counties.

Having been raised along the Gary beaches and utilizing our great natural resources, I am hoping that continued or new support to help fund our area is granted. We have wonderful fauna and nature preserves that must be protected in the future.

I am sorry that this letter of support is late but my computer AOL program crashed and I just received my mail yesterday.

**Comment 33: Carolyn Marsh, Whiting, Indiana**

I have made some brief comments on the Coastal Lake Michigan Program Scoping Document that I hope will be considered in a Coastal Zone Management Plan.

**MARINAS**

Whiting Park shoreline should be enhanced as part of the city park. Whiting cannot afford to maintain a marina or public boat launch and it would deny residents access to their lakefront if a marina was built. Currently there is a Whiting boat launch limited to members of the Whiting/ Robertsdale Boat Club.

Whiting also lacks a Department of Environment to control water and air pollution.

**WATERCRAFT**

If watercraft is restricted at the Indiana National Lakeshore because it can be dangerous and noisy, it should be restricted at other beaches such as at the Hammond Marina and Whihala Beach. I am concerned about the noise pollution from Jet Skies and I think they should be allowed miles from where people live and public beaches. Perhaps watercraft zones should be located where industry borders the shoreline.

**HUNTING**

There should be no hunting at the Hammond Marina, Whihala Beach and Whiting Park because the shoreline is near residential areas. These beaches are used for recreation such as walking/hiking, fishing, birding and biking and the gunshots are very disturbing. At Whihala Beach hunters illegally launch motor boats from the northwest end. Does the IN-DNR assign personnel to check hunting licenses and bag limits?

**DOG BEACH AT THE HAMMOND MARINA**

In 1999 Hammond created a Dog Area at the Hammond Marina beach without any public meetings. There should be a procedure to follow to create a "Dog Park" such as Chicago has in place. The Hammond Dog Area allows dogs to run unleashed creating a safety problem and there is a problem with dog fecal matter at the swimming beach. Is the Hammond Dog Area even legal?

**E. COLI TASK FORCE**

I am not aware that there is a unified strategy to find sources of bacterial contamination and eliminate the need to close beaches in Lake County. There is no Task Force presence in Gary, East Chicago, Whiting or Hammond. The Task Force should cover all swimming beaches and there should be a central toll free number to call to check if swimming beaches are open. I think water tests reports should be filed in one central place for convenience. Is it safe to swim where there is gasoline discharge from boats and Jet Skies as at the Hammond Marina?

**NATURAL AREA PROTECTION**

The Hammond Lakefront Park and Sanctuary, which consists of 9-1/2 acres of Bird Sanctuary (IN-DNRF) Conservation Easement) has been neglected by the Indiana Department of Natural Resources Foundation, Hammond Parks Foundation and the Hammond Parks Department. There is a need to protect migratory bird habitats along the shoreline in Gary, East Chicago, Hammond and Whiting. The Hammond bird sanctuary was to be fenced, but no protection has been afforded this area as promised.

George Lake Wetlands should be protected for migratory birds, particularly shorebirds and not made into a golf course or fishing/boating lake.

Correction page 9-10 second sentence: The access to the Hammond Marina is from Indianapolis Boulevard and the casino overpass. The Calumet Avenue entrance was closed when the riverboat casino opened diverting all traffic to the overpass.

**Response:**

The DNR Division of Law Enforcement enforces state laws including those relating to fish, wildlife, and hunting regulations. Conservation officers patrol Indiana's lakes and rivers 24 hours a day, 7 days a week. There is a District headquarters at the Lake Michigan office in Michigan City. It is not illegal for a hunter to launch a motorboat to get to a hunting area. However the motor on the boat has to be off during the actual hunt and any motion of the boat has to be from wave or wind action and not due to the motor.

The Hammond Marina provided the following directions: To get to the Hammond Marina or the Casino travel I-94 to Calumet Avenue (U.S. 41). Travel Calumet Avenue north to Indianapolis Boulevard (U.S. 12 and U.S. 20). Take Indianapolis Boulevard west to Casino Center Drive. Take Casino Center Drive west to the Hammond Marina entrance. Go past the Marina entrance to reach the entrance to the Empress III (now called Horseshoe Casino). The sentence referred to was updated in Chapter 9.

**Comment 34: Alex and Jude Rakowskli, Michigan City In.**

My wife and I wish to support the Coastal Program for Indiana. Thank you

**Comment 35: Lee Botts, Gary, IN**

This message urges that Indiana join the federal coastal program without delay. The resources it will provide are needed to enable this state to preserve and enhance critical resources on the shoreline of Lake Michigan. Illinois is also likely to join the program, which could provide new possibilities for linking coastal projects across the state line.

**Comment 36: Tom Anderson, Michigan City, IN**

I am submitting these comments in support of Indiana's coastal management program. We need to have additional resources and additional attention to our globally-threatened resources in Northwest Indiana. This will improve our quality of life and add to the long-term sustainability of our communities and families.

I have worked for years to include Indiana into the federal CZM program. I have spent hundreds of hours participating in numerous coastal planning efforts such as the Trail Creek Watershed Plan, the DNR Coastal Workgroups, the Blue Ribbon Panel and also the Permits Streamlining Workgroup.

I urge Governor O'Bannon to designate Indiana a coastal state and help protect Indiana's best natural resources, Lake Michigan and the Indiana Dunes.

**Comment 37: Joan Wiseman Anderson**

To whom it may concern: As a lifelong resident of northwest Indiana, I support the coastal program. I participated in meetings for the past few years. I think that Indiana has a chance to take a stand and do the right thing. Economic benefits combined with human health benefits make this a win win situation for all concerned, industry and residents. My grandson became very ill after swimming in Lake Michigan this summer near Beverly Shores, and I feel that it was because of the unregulated flow of sewage into our streams that makes its way into the lake. It is time to make Porter County, especially Valparaiso, internalize their costs of luxury home development without proper sewage treatment. They should be ashamed of themselves. Other communities, much poorer ones than Valpo, like Michigan City,

have upgraded their sewage treatment plants. My family drinks the water of Lake Michigan, as do my parents. In undergraduate school at Purdue, I researched the Situation of 1902, which was an outbreak of cholera due to drinking water contamination by sewage. It is almost 100 years later, can't we do better than this?

**Comment 38: David Hoppe, Indianapolis**

I am writing to support Indiana's participation in Coastal Program. Having just returned from a thwarted weekend in Michigan City due to sewer overflow occasioned by last week's rain in Chicago, I can testify to the importance of our state's attending to water quality issues along the Lake Michigan coast. Indiana beaches were closed on one of the most beautiful weekends of the year. The silence in Michigan City was deafening; I can only guess what the costs in lost revenues and negative pr must be.

**Comment 39: Bertina M. Rudman, Bloomington, IN**

I urge the DNR to support Indiana's participation in the Lake Michigan Coastal Program.

**Comment 40: Bowden Quinn, Executive Director**

The Grand Calumet Task Force wholeheartedly supports the proposed Indiana Lake Michigan Coastal Program. We believe that such a program is urgently needed to preserve globally significant habitats in this region, to protect coastal water quality, to improve recreational opportunities for all residents, and to promote better coordination among government agencies and non-governmental organizations that are working to achieve these goals in the Lake Michigan coastal area.

The Task Force is a community environmental group working to clean up the Grand Calumet River and protect Lake Michigan. We have more than 200 members, most of whom live in Lake and Porter counties.

The Task Force is also a member of the Calumet Heritage Partnership, a coalition of more than 20 Indiana and Illinois organizations and individuals who are interested in identifying, preserving and enhancing the natural, historical and cultural heritage of the bi-state Calumet Region. I currently serve as the Partnership's president. The Task Force and other members of the Partnership are very enthusiastic about the coastal program's intent to protect and promote cultural and historical resources in our area.

A state program that will bring more resources to bear on the important task of promoting sustainable development along the Lake Michigan coastline is long overdue. I congratulate you on bringing this idea forward. Let me know if there is anything more that the Task Force can do to make this program a reality.

**Comment 41: Charlotte J. Read**

My husband and I strongly support the proposed Lake Michigan Coastal Program. We both attended the public meeting held in Portage, Indiana earlier this summer. For the benefit of the Northwest Indiana environment and its economy, we believe it is imperative for Indiana to move forward with this program. It is also our understanding that if the proposed Conservation and Reinvestment Act is passed by the United States Congress, Indiana's participation in the Coastal Program would bring further resources to bear on our significant coastal opportunities and challenges.

We believe that this program offers the possibility of restoration of damaged coastal resources, rehabilitation of legacy sites, and improved access to our invaluable Lake Michigan shoreline.

Several states already participating in the coastal program have produced attractive maps highlighting the multitude of resources in their respective coastal zones. We would hope that DNR, which has produced a

number of attractive posters in the past, would be able to find the funding for such an educational and outreach tool.

We look forward to the next round of public meetings when the Environmental Impact Statement is done.

**Comment 42: John E. Hawkins, Conservation Chairman, Lake County Fish & Game Protective Association, Inc.**

At the risk of showing my age, I remember, while attending grad school in the mid-60s, watching a movie that showed the pollution and other destruction taking place in and along our Great Lakes. The narrator noted that Lake Michigan, like the other lakes along the heavily industrialized areas, would soon be considered “dead lakes” with the next ten years unless something was done.

I will not go into a history lesson here, but as we know, a lot was done to turn this situation around. While we still have problems, the Great Lakes are far from “dead”.

Through Pittman-Robertson and more recently, Dingall-Johnson Federal Programs, the sportsmen and women of this country have pumped a lot of money into the area’s wildlife and fishery that all people in the outdoors enjoy. Yet, when you look at a map of the Lake Michigan Shoreline, you see no public boating access on the lake, only marinas. Almost all of our public waters in the State have at least one, if not several, places of public boating access, depending on size, but on our biggest, Lake Michigan, we have none.

As our Association President, Ray Cooper, pointed out at the recent public meeting at Wicker Park, special arrangements had to be made last waterfowl season with Marina owners so waterfowl hunters could get out the before dawn to enjoy open water waterfowl hunting. Ray also noted, that as the gambling interests moved in, the sportsperson’s access has shrunk even further.

The Lake Fish & Game Protective Association believes that the most important priority of the Indiana Lake Michigan coastal Program should be to enhance the public boat & fishing access to Lake Michigan. This should be pursued in all three counties. We encourage you to leave no stone unturned in this endeavor and if we can be of assistance in this or any other matter pertaining to the program, please contact us at our above noted address.

**Comment 43: Thomas C. Serynek, President, Save the Dunes Council**

The Save the Dunes Council supports Indiana’s participation in the federal Coastal Zone Management program. We have urged Indiana join this effort for over 20 years. Save the Dunes staff and members have participated in numerous workgroups and other meetings during the past 5 years related to coastal management efforts, including the Blue Ribbon Panel.

The Indiana Coastal Program presents a great opportunity for Indiana. More than \$600,000 per year will be available to address coastal issues. Improved water quality and additional habitat protection are two examples of activities that can be supported with an active Coastal Program. We also urge that increased public access be provided, where appropriate, along the Lake Michigan shoreline and tributaries.

Save the Dunes Council offers our support as the process moves ahead. We look forward to the Environmental Impact Statement and the public meetings this fall to further discuss this great opportunity.

**Comment 44: Ellen Firm, Beverly Shores Town Council**

I am in favor of the Program. Do have a few concerns. Our lake front is part of the Indiana Dunes National Lakeshore. We have requested the Park not put any additional parking areas as the homes on the north side of Lake Front Drive come down. We would like to have a shuttle bus from the train station, the

South Shore, at Route 12 and Broadway to Lakeview, the popular Park parking area and picnic area as well as beach.

**Comment 45: Vollie D. Riskin, Lake Michigan Inter-league Group, League of Women Voters**

My name is Vollie Riskin. I'm from Hammond, IN. I represent the Lake Michigan Inter-League Group, League of Women Voters. This group is comprised of approximately 40-50 leagues of League of Women Voters in the Lake Michigan Watershed in IN, IL, WI, and MI. We formed in 1967. We adopted Shoreline Management at our 1976 annual meeting and reaffirmed our stand at each successive annual meeting since.

We believe comprehensive planning for coastal shoreline management requires the participation of all members and the public in and around the shorelines of the Great Lakes and Lake Michigan in particular. We believe matters of shoreline management including pollution, dredging, restoration and pure water for Lake Michigan can best be resolved by the unified action of all Lake Michigan states and national shoreline states participating in a cooperative effort of the federal and state governments.

We believe the primary driving force behind the development and implementation of successful shoreline management programs must be a continuous, on-going process of citizen participation. Incorporating the results of meaningful citizen participation activities into development of a shoreline management program will go a long way toward assuring a program that will stand on its own merits and be fully understood and supported by the public.

That's one reason I'm particularly glad you're holding public meetings and asking for input from the public on your Lake Michigan Coastal Program (LMCP). We want IL and IN to participate in the national initiative with the 33 other coastal states to protect, restore, and responsibly develop Illinois' and Indiana's coastal area and other coastal areas.

We believe there should be strict limitations on the use of the shoreline. We favor a thorough scrutiny of the need for economic development of any shoreline location, so that only those developments or activities that NEED the shoreline would be allowed. The Lake Michigan Inter-League Group-League of Women Voters is convinced that the highest ecological standards CAN be compatible with careful and necessary shoreline development.

There should be no across-the-board relaxation of standards or delay in set timetables in achieving pure water for Lake Michigan.

Our group is very much interested in shoreline programs that would help clean-up, restore, and develop the shorelines of Lake Michigan and Wolf Lake in particular, and other shores as well.

It's interesting to note from your presentation tonight, that you propose many of the same ideas our group has supported since 1976. These ideas include coordination among government agencies in policy and decision-making processes, protection and restoration of significant natural and cultural resources, public participation in planning shoreline management programs, etc.

We applaud the Indiana Department of Natural Resources and Lake Michigan Coastal Coordination Program for research and initiative on shoreline management.

Thank you for this opportunity to give input.

#### **Comment 46: Bill Theis, Executive Board, Stop Taking Our Property**

MSG: Please include the following public comment as part of your EIS on the Lake Michigan Coastal Program. Please include, as promised, at your public hearings to include the local government resolutions of opposition, the news articles detailing opposition, the press releases announcing the INDR was dropping the program, and the thousands of letters of opposition.

Further, I am formally requesting a meeting with the Governor, Director of the DNR, and the Program Manager to discuss why an EIS is being done on this Program in the face of overwhelming opposition and the prior decision of the DNR to withdraw this proposal.

**Response:** The DEIS notes that Mr. Theis submitted a large stack of written materials that he reported as being from various people responding to the DNR, which were submitted in 1995 in response to public meetings conducted by state at that time. Since these letters were part of a previous effort and not within the scope of this public input process, these letters were not included for the record; however, Mr. Theis' comments were considered. Upon review of the written materials submitted by Mr. Theis, it was noted that many of the written statements did not support a coastal zone management program in 1995. Chapter 6 of the LMCP details the history of the program development process, including the local government resolutions and other information from the period 1993 to 1995.

#### **Comment 47: Peter Youngman, Ogden Dunes, IN, Historical Society of Ogden Dunes, historian**

Of the suggested Program goals, I rank the protection and restoration of significant natural resources the highest. It would be nice if this program is also able to work in historical projects but, as I view the parameters, such projects would apparently have to be pretty special. The least useful direction for the Coastal Program to head would be for it to end up promoting industry. There are much better sources to fund commercial revitalization than this.

The Coastal Program Area:

I would suggest cutting back the boundaries of Option C a bit, removing the Crown Point, Valparaiso, and northeastern LaPorte County protuberances. As it is, the limits have been squared off from their natural lines. Therefore a further simplification of the area boundary does not seem out of order. The Saint Joseph River and all of its tributaries have been left out, although they are certainly part of Indiana and part of the Lake Michigan watershed. They simply do not flow into Indiana's portion of Lake Michigan.

Option B appears more relevant to the concept of a Coastal Program than Option C, as I understand it. Option A seems even more to the point. I grasp that matters in the entire watershed could adversely affect our Lake Michigan but, from the other states' grant examples and from the general purpose of the Coastal Program, expanding the program area much beyond the immediate shoreline area does not serve much purpose. While things upstream can and will affect Lake Michigan, it appears to me that those upstream problems are more likely to be addressed through other programs than this, leaving the Coastal Program to deal with projects within spitting distance of the Lake itself.

People interested in the quality of fishing far upstream have a legitimate interest but I think it would be kinder to make it clear that this program is going to concentrate on the areas along Lake Michigan, than to include excess territory. This should concentrate more of the administrative effort on initiatives which will actually be funded, vitiating one of the concerns about the Coastal Program, which was voiced at the Portage Public Meeting. This also might cut away some of the flak from the conspiracy theorists.

I am not sure how much stock will be placed on the program map but I would suggest not relying on it directly, when it includes the unincorporated village of South Haven, yet does not depict the incorporated town of Winfield, which is within the Option C area. Likewise, although Ogden Dunes' public beach is within the "authorized" territory of the Indiana Dunes National Lakeshore, it is not actually part of that park, as our beach is public property, and the town of Ogden Dunes has not sold it to the federal government.

It strikes me as disingenuous to exclude Ogden Dunes' shoreline from consideration, as being armored. The steel pilings were driven in front of homes, not to protect the beach and the former foredunes. Ogden Dunes' shoreline is not armored as the industrial sites extending out into Lake Michigan are armored, where no beach existed or will exist. Ogden Dunes' shoreline does not even resemble eastern Dune Acres' and Porter's, where steel pilings were driven right along the shore of the beach and houses built with direct riparian rights. The shoreline itself, through Ogden Dunes, is not in fact armored. While the beach is by no means natural anymore, the beach itself is north of the piling walls, not protected by them.

Excluding an area for its having reacted to external, unnatural stimuli also seems rather odd, seeing as how failure to protect against the unnatural shoreline erosion would have caused there to be no area to remain, for this matter to be raised about.

The Historical Community of Northwest Indiana members have been interested in discussing the Coastal Program. We will be interested in following the progress of its implementation.

**Response:** The LMCP boundary was developed based on public identification of priorities. These priorities overwhelmingly include public access to both the shoreline and the major tributaries to Lake Michigan and improvement of water quality for the region. The LMCP's Coastal Grants Program can provide financial assistance to communities to address these priorities. A watershed approach can lead to an effective effort to improve water quality and fisheries resources by addressing areas that impact the water quality of the shoreline and Lake Michigan. The process of identifying priorities annually through public meetings in northwest Indiana will allow the local communities to determine the most important issues that can be addressed by the LMCP.

The shoreline of Ogden Dunes is not excluded from consideration in the LMCP. The on-going maintenance and monitoring of shoreline erosion and protection is an important component of the LMCP. Chapter 10 of the LMCP describes the current conditions of Indiana's shoreline and Table 10.1 details the extent and method of protection found. The method of protection for Dune Acres is recorded as "Combination of vertical walls and rock revetment".

Chapter 8 of the LMCP identifies "Areas where if development were permitted, it might be subject to significant hazard due to storm, slides, floods, erosion, and settlement" as a category of Coastal Areas of Significance. The shoreline owned by the Town of Dune Acres is classified as a high erosion hazard area, however, it is important to recognize that the hazard is being managed by shoreline protection using hard structures. This does not change the classification or recognition of this area as a high erosion hazard area.

**Comment 48: Nicole M. Kalkbrenner, LaPorte, IN**

As a resident of the coastal zone region of LaPorte County for the last 7 years, I am writing to relay my support for Indiana's involvement in the Coastal Zone program. I was involved in the original Coastal Zone discussions about 6 years ago, and was disappointed that the program did not receive the important support necessary to become viable at that point. This is an incredible opportunity for water quality and habitat programs to become supported and implemented in Indiana. In addition, the Coastal Zone program also provides opportunities for sustainable economic activities such as clean beaches, trails



connecting communities and habitat restoration. Furthermore, I would like to see the Coastal Zone program include portions of the City of LaPorte due to the fact that the watershed of Lake Michigan extends into portions of the City of LaPorte.

**Response:** The inland program boundary was based, as much as possible, on the natural divide for surface water flow to Lake Michigan. Based on the 1994 *“Water Resource Availability in the Lake Michigan Region, Indiana”* completed by the DNR, the excluded areas near the city of LaPorte are not hydrologically connected, based on surface water data, to the Lake Michigan Basin. Please refer to Chapter 3 for a more detailed discussion of groundwater flow and the development of the inland boundary for Lake Michigan.

**Comment 49: Terrence B. McCloskey, Conservation Land Managers LLC, LaPorte, IN**

As a life-long resident of “Da Region” and a participant in the 1995 Workshops on the Coastal Management Plan, I am pleased to see that DNR listened to the concerns of the people and carefully researched the issues and laws pertaining to the coastal area. We were a very cosmopolitan group with very diverse opinions (read “opinionated”), so it was no easy task for DNR to address everything.

We fully support Indiana’s participation in the Coastal Program. We recognize that it is not a “zoning” program to regulate land use but a planning program to address issues that affect the watershed of Lake Michigan and the lake itself. Indiana has additional lands that drain to the Great Lakes- such as the St. Joseph River through South Bend and the Maumee River through Ft. Wayne- but these have rightfully been excluded from the Coastal area because they are so far removed from the lakes and drain into other states.

However, we recommend that the lakes in LaPorte City be added to the Coastal Management Area because they are hydrologically connected to the Lake Michigan Watershed. Dye studies in the 1920s proved that the lakes in LaPorte are the source of water to Trail Creek and Galena River through numerous springs, including those at Springfield Fen State Nature Preserve and Galena Marsh Wetland Conservation Area. Therefore, these lakes need to be included in the Indiana Lake Michigan Coastal Program. The Valparaiso lakes should probably also be included because they are right on the “divide” and are an important resource for Valparaiso, most of which is included in the LMCP area.

We hope you will also work to protect significant historic sites, including the site of the 1918 Wallace-Hollenbeck Circus train wreck in western Gary, an area now known as Ivanhoe. The late Roger Reader wrote a book about it, and the circus phrase, “The show must go on” came from that horrible event. This tragedy needs to be remembered, as does many other significant events in the history of northwest Indiana. Based upon flint chips, etc. that I have found, there was also an Indiana trail or encampment in the same general area.

**Response:** The inland program boundary was based, as much as possible, on the natural divide for surface water flow to Lake Michigan. Based on the 1994 *“Water Resource Availability in the Lake Michigan Region, Indiana”* completed by the DNR, the excluded areas near the city of LaPorte are not hydrologically connected, based on surface water data, to the Lake Michigan Basin. Please refer to Chapter 3 for a more detailed discussion of groundwater flow and the development of the inland boundary for Lake Michigan.

**Comment 50: Robert J. Boklund, Vice President, LaPorte County Conservation Trust, Inc.  
Member, Indiana Heritage Trust Project Committee**

Thank you for your presentation on the Indiana Coastal Program, at the July 12<sup>th</sup> Natural Areas Workshop at Barker Woods, in Michigan City. With regards to one particular issue in that program, I make the following comments:

The drainage divide is simply inadequate as the Coastal Region's southern (landward) border for a number of reasons. Not the least of which are the problems associated with defining it infield. This natural divide generally does not coincide with many clearly observable natural or cultural features. Consequently, eligibility for program opportunities, including grant funding, often cuts imperceptibly across the landscape, following this line. One part of a single property can conceivably be geographically eligible, while another portion is not. Moreover, determining exactly where that eligibility line lies can often prove tricky.

I strongly urge you to move the southern boundary of the coastal region further south, sufficient to encompass at least both greater LaPorte and Valparaiso. This should be done along clearly definable cultural borders.

The US EPA, through cooperation with NIRPC and the US ACoE (Detroit District), is presently completing an ADID for coastal region wetlands. I was the leader of the LaPorte County Morainal Lakes team. This ADID used a modified version of the drainage divide as the southern boundary. This was so that the wetland areas of the high moraine on both sides of the surface drainage divide could be incorporated in the study area. Attachment I & II characterize this region showing a modification of the drainage divide as the southern boundary. A complete set of such maps for this region can be obtained upon request. These morainal wetlands and associated ecosystems have a much greater affinity to the ecology of other morainal and lake plain lands to the north, than to those on the outwash plain to the south. Moreover, evidently subsurface drainage from areas of the moraine south of the surface divide also flows northward toward Lake Michigan. There is also a theory held by some geologists in the IGS that lake/wetland systems like those of Hudson Lake, LaPorte, Westville and Valparaiso may have actually originally been "geysering" ice tunnels of the Wisconsin Glacier, when it was located over the southern end of Lake Michigan. These "tunnels" apparently collapsed as the glacier continued to retreat, leaving a ring of present day lakes and wetlands paralleling the coast.

Beyond natural features the cultural affinity of LaPorte to the Lake Michigan coast is long and enduring. The marketing of Michigan City and LaPorte together as Indiana's "Harbor Country" show the evident coastal theme of tourism for both cities. This is of major economic importance, locally. Allowing Michigan City to be eligible for certain program funding available under the Coastal Coordination Program, while denying this to LaPorte would be unfair and problematic.

Given all of the above, I would advocate either of two options of a revised setting of the Indiana Coastal Region boundary:

1. Coastal Region Township lines: The landward boundary of all townships containing any portion of the Lake Michigan watershed would work well as a regional boundary, since they represent the borders of local governmental units. Because local government would be expected to play some role, either direct or indirect, in many of the projects receiving eligible funding, township lines would conform nicely for these purposes, since they are easily understood by the public. Moreover they would encompass areas with both surface and subsurface drainage to Lake Michigan. See Attachment for an illustration of this boundary. (See Attachment IV).
2. Thoroughfare Approximation of Coastal Region Township Lines: If a boundary with visibly definable component is necessary, then transportation routes conforming closely

to the above landward boundaries of the coastal region township lines may provide an alternative to the actual boundaries themselves. While township lines are generally more clearly defined than a drainage divide, in some places they may be obscured. Thoroughfares may be highways, roads, streets, railroads, etc. (See Attachment V for one possible option.)

Either of these boundary options would be preferable to one that leaves the communities of Hudson Lake, LaPorte, and/or Valparaiso out of Indiana's Coastal Region. Thank you for the opportunity to comment on this important subject.

**Response:** The inland program boundary was based, as much as possible, on the natural divide for surface water flow to Lake Michigan. Based on the 1994 "*Water Resource Availability in the Lake Michigan Region, Indiana*" completed by the DNR, the excluded areas near the city of LaPorte are not hydrologically connected, based on surface water data, to the Lake Michigan Basin. Please refer to Chapter 3 for a more detailed discussion of groundwater flow and the development of the inland boundary for Lake Michigan.

**Comment 51: Allen J. Kress, East Chicago Department of Planning & Business Development**

I believe that the geographic boundary of the LMCP is much too large. Due to the size of the present designated boundary the number of entities that will want a voice in the distribution of future funding may cause the program to experience administrative chaos and a diminishing of funding impacts.

Additionally, the use of funds should not have a cultural component. Protection and restoration of coastal resources should only be concerned with the natural environment; and especially, if the large geographic boundary is maintained as part of the program.

**Response:** The proposed process of identifying priorities annually through public meetings in northwest Indiana will allow local communities to determine the most important issues that can be addressed by the LMCP. In addition, the DNR will form a stakeholders advisory group to provide input for the Coastal Grants Program. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region.

The LMCP incorporates the consideration of historic and cultural values of coastal resources as well as their ecological, conservation, recreation, and economic values. The consideration of historic and cultural values is also recognized in the Coastal Zone Management Act as a national concern. As the LMCP works with local governments and organizations on projects, the value of historic and cultural sites will be considered. This aspect of the LMCP may be most applicable for projects such as increasing public access to historic sites, waterfront redevelopment, and protecting important historic sites such as underwater shipwrecks. The criteria outlined in Chapter 8 under the Coastal Areas of Significance category, "Areas of historical significance, cultural value, or substantial recreational value or opportunity" will be used for consideration in the implementation of the Coastal Grants Program. However, implementation of the LMCP will take a balanced approach to all values associated with Indiana's coastal resources.

**Comment 52: Paul Panther, Ogden Dunes**

I have the following concerns, but support the concept offered: United we stand.

1. Lake/Porter/LaPorte inland boundaries (proposed coastal program area) extend far too much to south county areas. Area needs to be severely restricted to the coastal line and to tributaries that carry polluted waters to the lake.
2. Primary focus needs to be on erosion issues where man made projects have seriously contributed to erosion ie Ogden Dunes and Beverly Shores area in Indiana. Same also for other states.
3. Private companies should be able to request funds for erosion mitigation only if they are partners in mitigation efforts with local agencies/governments etc seeking funds for a common purpose.
4. Indiana's focus, given the large % of state and federal beaches needs to consider, first and foremost, the maintenance and cleanliness of all these lands and any adjacent lands contained within these boundaries which includes private properties.
5. Any project should be designed with consideration to include the mitigation of erosion/pollution to all federal and state beaches/hands over though money cannot be given to federal staff entities.
6. Public access issues need to be sensitive to all communities where homes are built near the shoreline. This sensitivity must be concerned with insuring security, privacy, safe streets (traffic), beach facilities (restrooms/emergency phones, slope protection and the ability of a community to subsidize city/town resources such as police and fire costs. Finally, the protection of natural resources, endangered species etc must be given appropriate consideration to prevent serious damage to the ecosystem.

**Response:** The proposed process of identifying priorities annually through public meetings in northwest Indiana will allow local communities to determine the most important issues that can be addressed by the LMCP. In addition, the DNR will form a stakeholders advisory group to provide input for the Coastal Grants Program. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region.

Private, for-profit companies are not eligible for grants through the LMCP. Local governments are eligible recipients. However, it is important to note that under the Coastal Zone Management Act, Section 306(A) funds cannot be used to finance large-scale erosion-prevention structures. Therefore, it is federal policy that section 306(A) funds shall not be used for beach renourishment or hard structure erosion control projects. Small-scale shoreline stabilization structures are allowed for the redevelopment of deteriorating or underutilized urban waterfronts or ports to provide for increased public use and access. Vegetative erosion control activities or planning activities for a beach renourishment project or non-structural erosion control projects can qualify, if the project is on public land, will have a substantial public benefit that outweigh the costs, and meets the other funding requirements. This information has been added to Chapter 7 of the LMCP.

**Comment 53: Mary McConnell, State Director, The Nature Conservancy**

We are very pleased to write this letter in support of the Indiana Lake Michigan Coastal Program as set forth in the Scoping Document 2001 which was presented at a series of public meetings designed for review and comment.

The Nature Conservancy is dedicated to preserving the plants, animals, and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. We are supported by over 18,000 members in Indiana. We have helped protect nearly 41,000 acres of land in Indiana.

We are a science-based organization guided by a plan entitled “Conservation by Design”. The basis of this plan is the division of the United States into 63 ecoregions with selected priority sites within each of the ecoregions that are representative of the ecoregion and/or globally significant. One of these ecoregions is the Great Lakes Ecoregion.

The Indiana Field Office of the Conservancy was founded in 1959. We opened our first project office on the southern rim of Lake Michigan in 1994. The Lakeshore, the dune and swale remnants, the wetlands, and the diversity of flora and fauna are unequaled in the state. Our project manager, Paul Labus, has been actively working with local, state, and federal agencies in the area, as well as with corporate entities.

The Conservancy supports both the concept of the Indiana Lake Michigan Coastal Program (LMCP) and the designation of the Department of Natural Resources (DNR) as the lead agency for administration of the LMCP, including the Coastal Grants Program. The LMCP will enable the state to participate in the federal Coastal Zone management Program, making Indiana eligible to receive funds annually from the National oceanic & Atmospheric Administration (NOAA). States are able to determine what percentage of their funds they want to use to administer the LMCP and Percentage to make available for competitive grants. The plan suggests that the Indiana Coastal Grants Program will be established with the purpose of preserving, protecting and restoring resources of the Lake Michigan coast. The program is to give full consideration to ecological, cultural, historic, and esthetic values, as well as to needs of economic development.

As noted in Chapter 7, the Coastal Grants Program will be administered by the LMCP. The conservancy would suggest that the LMCP make use of the “Technical Review Team” in a way similar to the Indiana Heritage Trust Committee’s use of the “Project Committee”. The team would be made up of stakeholders and experts who use an objective point system to analyze each project to ensure grants are awarded on merit. The technical review team’s recommendations should then be forwarded to the DNR Director or his designee for the final determination.

The Conservancy is particularly interested in the designation of Areas of Particular Concern (APC) as discussed in Chapter 8. After consulting with our partners in the region, we will provide nominations for APC designations, as well as nominating specific sites for designation as Areas for Preservation and Restoration.

We applaud you for your hard work and perseverance in developing this plan within the scope of existing statute and regulation. Because of your effort, Indiana will be eligible to receive much-needed federal dollars to assist us in cohesive ecological, cultural and commercial ventures in the Lake Michigan coastal area.

**Response:** The DNR will form a stakeholders advisory group to provide input for the Coastal Grants Program. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region.

**Comment 54: Willie R. Taylor, Office of Environmental Policy and Compliance, The U.S. Department of Interior**

The Department of Interior has reviewed the Scoping Document 2001 for the Indiana Lake Michigan Coastal Program (LMCP) as requested in your letter of June 1, 2001. We offer the following comments and recommendations on the document for your consideration.

This 250-page report is an extensive compilation of information about the Lake Michigan drainage of northern Lake, Porter, and LaPorte Counties, Indiana. It includes information on the natural and cultural resources of the area, land and water pollution problems, shoreline erosion, public access, private property, and other issues of concern to the local residents and the State of Indiana. It also includes a thorough discussion of various State programs and statutes pertaining to the requirements of the Coastal Zone management (CZM) Act. It defines what constitutes permissible land and water uses within the coastal area. It discusses direct and significant impacts on the coastal waters and outlines the State laws and judicial decisions that apply to the land and water uses identified by the program.

The Department's U.S. Fish and Wildlife Service (FWS) has been addressing many issues within the Lake Michigan watershed of Lake, Porter, and LaPorte Counties through the years. These issues include wetland fill permits, natural gas pipeline construction, bridge and highway construction, endangered species habitat protection and restoration, shoreline erosion and beach nourishment, the Little Calumet River Flood Control and Recreation Project, and natural resource damage assessment and contaminant remediation. The FWS has worked with other Federal agencies and numerous State and local agencies on these issues. We expect that this coordination will continue when Indiana takes part in the CZM program. Federal consistency requirements would affect some FWS activities and programs in the coastal zone, including issuance of endangered species and migratory bird permits, natural resources trustee activities, and funding under the Endangered Species Incentive Program, the Coastal Program, and the Federal Aid in Sport Fish and Wildlife Restoration Programs.

Although Federal agencies are not eligible to receive grants through the CZM Program, we hope the FWS will be involved in coordination to develop grant proposal guidance and with project evaluations, since the FWS has significant knowledge of problems and resources in the coastal area, including migratory birds and endangered species. The FWS also wishes to be involved with designations of Areas of Particular Concern and Areas for Preservation and Restoration.

The Department supports the proposed LMCP Area boundary, as defined in Chapter 3 and delineated on Figure 3-3. It is based on the Lake Michigan watershed boundary with a modification to include the artificially altered watersheds of portions of both the Grand Calumet and Little Calumet Rivers, which have been diverted to the Illinois River system from their original Lake Michigan system. We believe it is necessary to include the whole watershed rather than use a man-made boundary such as a highway because what occurs in the entire watershed ultimately affects Lake Michigan. We note that the coastal area boundary for Sections 6217 purposes, concerning non-point source pollution control, may be different from the LMCP Area boundary.

The FWS believes that approval of the LMCP, as well as the awarding of funds under Sections 306 and 309 of the CZM Act, are actions that may be subject to the requirements of the Endangered Species Act of 1973 (ESA), as amended. Accordingly, if additional review supports that belief, the FWS may request the National Oceanic and Atmospheric Administration to enter into consultation with the FWS under Section 7 of the ESA with respect to those actions.

Additionally, the implication of a scoping document is that the project developers are in the process of understanding the scientific, social, and economic parameters of the proposed project, and that the goal of the project scoping process is to learn about those issues. The Department's U.S. Geological Survey (USGS) has conducted scientific research in the geographic area of the proposed project. The following information is being offered to help in guiding development of the Indiana LMCP.

Description of USGS projects that pertain to the Indiana LMCP can be retrieved from the USGS URL at <http://biology.usgs.gov> under Centers or under Current Projects. Specific projects, by possible categorization, that may be useful include:

## ECOLOGY

Ecological assessment of the Grand Calumet Lagoons, Great Lakes Science Center (GLSC).

Effects of woody vegetation on fire history and plant and animal distribution in historic oak savannas, GLSC.

Response of dune vegetation to the lake level changes along the upper Great Lakes, GLSC.

Survey and report of invertebrate populations and yellow perch spawning activity in vicinity of Indiana Dunes National Lakeshore, Indiana, GLSC.

Status of freshwater mussels (Family *Unionidae*) at five National Park Service Units: Effigy Mounds, Indiana Dunes, Isle Royale, Picture Rocks, and Sleeping Bear Dunes, GLSC.

## INVASIVE ANIMALS AND PLANTS

Exotic copepods (*Harpacticoida*) in the nearshore food web of southern Lake Michigan, GLSC.

Botanical characters of alien invasive plants, National Wildlife Health Center.

Survey and ranking of nonindigenous invasive plants in four National lakeshores along the upper Great Lakes, GLSC.

Pitcher's thistle (*Cirsium pitcheri*) population dynamics: demography and seed predation, Western Ecological Research Center.

## HABITAT RESTORATION

Synthesis of more than 60 years of surface and ground water data at the Indiana Dunes National Lakeshore, GLSC.

Restoration of Pinhook Bog, GLSC.

## POLLUTION PREVENTION

Determine the environmental status and pollution sources of Long Lake, Indiana Dunes National Lakeshore, GLSC.

Monitoring and forecasting outfalls of *E. coli* contaminated stream flow at Burns Ditch, Indiana, GLSC.

## PUBLIC EDUCATION

Effects of global climate change on Great Lakes wetlands, GLSC.

Holocene paleoecology of Great Lakes Parks, Forest and Rangeland Ecological Science Center.

We appreciate the opportunity to provide these comments. If you have any questions concerning these comments, please call Ken Havran in the Office of Environmental Policy and Compliance at (202) 208-7116.

**Response:** Coordination with federal agencies is an important component of the LMCP. The DNR looks forward to working with the Department of Interior, including the FWS and USGS, to implement the LMCP. Additionally, the DNR and NOAA will coordinate any projects or grant awards for the LMCP

that may require consideration under the ESA. The process of identifying Coastal Areas of Significance, as described in Chapter 8 of the LMCP, includes seeking comments on nominations from appropriate federal, state, and local agencies, the Natural Resources Commission, and the public. Participation by the FWS will add greatly to the nomination process. In addition, federal agencies are also able to submit nominations for Coastal Areas of Significance, as described in Chapter 8. Nominations by federal agencies will undergo the same review process as nominations submitted by state and local agencies, non-profit organizations, and the general public. Chapter 8 of the LMCP has been revised to reflect this possibility.



## **PART III: REQUIREMENTS OF THE NATIONAL ENVIRONMENTAL POLICY ACT**

### **A. PURPOSE AND NEED FOR ACTION**

NOAA has prepared this final environmental impact statement (FEIS) pursuant to the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 et seq. to assess the environmental impacts associated with the approval and implementation of the coastal program submitted to NOAA by the State of Indiana. The State of Indiana has submitted its coastal program to the Office of Ocean and Coastal Resource Management (OCRM) for approval pursuant to section 306 of the federal Coastal Zone Management Act (CZMA) of 1972 as amended, 16 U.S.C. 1451.

The proposed action on the FEIS is approval of the Indiana Lake Michigan Coastal Program (LMCP). The OCRM has made an initial determination that the program meets the requirements of the CZMA, as amended. Federal approval of the Indiana program will enable the State of Indiana to receive federal grant assistance for program implementation and will require that federal actions in or affecting the Indiana coastal zone be consistent with the Indiana program. The Indiana coastal program is described in Part II of this document. A table cross-referencing CZMA requirements with sections from this document may be found in Part I.

Approval and implementation of the LMCP will enhance governance of Indiana's coastal land and water uses according to the coastal policies and standards contained in the existing statutes, authorities and rules. Federal alternatives to program approval include denying approval, if certain requirements of the Coastal Zone Management Act have not been met. The state could modify parts of the program or withdraw its application for federal approval if either of the above federal alternatives results from circulation of this document. This final program EIS includes responses to comments received on the draft EIS.

#### **The Coastal Zone Management Act (CZMA)**

In response to the intense pressures upon coastal areas of the United States, Congress passed the Coastal Zone Management Act (P.L. 92-583). This Act was signed into law on October 27, 1972. The Act authorized a federal grant program to be administered by the Secretary of Commerce, who in turn delegated this responsibility to the NOAA Office of Ocean and Coastal Resource Management (OCRM). The Coastal Zone Management Act of 1972 was substantially amended on July 26, 1976 (P.L.94-370) and again on November 5, 1990 (P.L.101-58). The Act and the 1976 and 1990 amendments affirm a national interest in the effective protection and development of the coastal zone by providing assistance and encouragement to coastal states to develop and implement rational programs for managing their coastal zones.

Broad guidelines and the basic requirements of the CZMA provide the necessary direction for developing these state programs. These guidelines and requirements for program development and approval are contained in 15 CFR Part 923, as revised and published June 28, 1996 in the Federal Register. In summary, the requirements for program approval are that a state develop a coastal program that:

- Identifies and evaluates those coastal resources recognized in the Act that require management or protection by the state.
- Reexamines existing policies or develops new policies to manage these resources. These policies must be specific, comprehensive and enforceable, and must provide an adequate degree of predictability as to how coastal resources will be managed;
- Determines specific uses and special geographic areas that are to be subject to the coastal program, based on the nature of identified coastal concerns. The basis for managing uses, or their impacts, and areas, should be based on resource capability and suitability analyses, socio-economic considerations and public preferences;
- Identifies the inland and seaward areas subject to the coastal program;
- Provides for the consideration of the national interest in the planning for the siting of facilities that meet more than local requirements; and
- Includes sufficient legal authorities and organizational structure to implement the program and to ensure conformance to it.

## **B. THE PROPOSED ACTION AND OTHER ALTERNATIVES**

### **Introduction**

Given the nature of the proposed federal action, approval, delay and denial of the Indiana LMCP are all alternatives available to OCRM. In approving a coastal program (the preferred alternative), the Assistant Administrator for Ocean Services and Coastal Zone Management must find that a state has met the federal approval requirements of the CZMA at 15 C.F.R. Part 923. Delay or denial of program approval could be based on failure of the Indiana LMCP to meet any of the requirements of the CZMA, as amended.

In an effort to elicit public and agency comment and to assure that the Assistant Administrator's determination will be appropriate, this section identifies possible programmatic reasons for delaying or denying approval of the LMCP identified through the public review process to date.

### **Federal Alternatives**

Three alternatives to the proposed action are available to the Assistant Administrator: approve, delay, or take no action/deny. The Assistant Administrator's approval must be based upon affirmative findings for all of the requirements of the CZMA.

#### **Alternative 1: Federal Approval of the LMCP.**

This is the preferred alternative.

Approval of the Indiana LMCP would be based on an affirmative finding that the program meets all requirements of the CZMA and its regulations. The benefits of the LMCP implementation would include improved regulation and enforcement; balanced coastal community development; improved economic development for water dependent uses; better natural resource and hazardous areas management;

improved intergovernmental coordination and greater public awareness. Additional benefits are the review by Indiana of federal and federally permitted and funded projects for consistency with its coastal program and consideration of the national interest in state decision-making.

### **Alternative 2: Deny Federal Approval of the LMCP.**

OCRM could deny approval (take no action) if the program is found to not meet all requirements. With respect to the "no action" alternative, the OCRM considers federal denial or state withdrawal from the program and "no action" as synonymous. State participation under the CZMA is voluntary: when a state participates in program development, it determines whether or not program approval and implementation is in its best interest. The impacts of "no action" are described below:

- A. Loss of federal funds to administer the program: Under section 306 of the CZMA, Indiana would receive approximately \$900,000 annually to administer its coastal program.
- B. Loss of consistency review of federal actions: This will mean that federal actions would not be reviewed by Indiana for consistency with the LMCP as required by section 307, CZMA.
- C. Loss of adequate consideration of the national interest in the siting of facilities which are other than local in nature as required by section 306(d)(8) of the CZMA. By delaying or denying program approval, the State of Indiana and local governments would be under no obligation under section 306(d)(8) to give adequate consideration to coastal facilities that are of national interest. This could result in loss of public benefit that the use of such facilities provides.

### **Alternative 3: Delay Federal Approval of the LMCP.**

OCRM could delay if any element of the LMCP necessary for program approval does not meet approval requirements and requires some modification. In the opinion of OCRM, the following issue might be the most prominent in terms of reviewing the adequacy of the LMCP meeting specific CZMA requirements.

Delay program approval if the state does not have the organizational structure to implement the coastal program.

The LMCP is a "networked" program consisting of several Indiana natural resource protection programs. Indiana's Environmental Protection Act requires all state agency actions to use all practicable means, consistent with other essential considerations of state policy, to improve and coordinate state plans, functions, programs, and resources. In addition, coordination of state policies and decisions will be facilitated through three main state environmental rule-making boards, which consist of representatives from the primary environmental state agencies. Responsibility within DNR for implementing the relevant statutes and coordinating the overall program falls to the Division of Soil Conservation. Other state agencies such as the Indiana DOT need to act consistently with the LMCP. The Assistant Administrator could delay program approval if the coordination and consistency provisions of the LMCP including the interagency MOUs included in Chapter 4 Part II are insufficient to effectively network state agencies and divisions into an overall coastal program.

Before taking final action approving the LMCP, OCRM will review the complete record of comments and responses.

## **State Alternatives Considered During Program Development**

Throughout the early efforts to develop a state coastal program, Indiana gave preference to using a networked approach based on existing authorities rather than the creation of a new CZM agency. In addition, the state gave preference to basing the program on existing authorities rather than creating new laws or regulations. The state and public preference was to improve streamlining and coordination of existing laws and programs to enhance the state's role in planning for and managing natural and cultural resources in the coastal region.

The state also considered several alternatives for the LMCP boundaries. It was determined that a boundary based on the Lake Michigan coastal drainage basin in Indiana would be developed for consideration by the public through the program's Scoping Document. In addition, the comments received during the public workgroup process held in 1995 were used to select a preferred boundary. The workgroup process provided information about local priorities including government streamlining, economic redevelopment, recreational access, shoreline erosion, waterfront redevelopment, water quality, fisheries management, and natural resource conservation. A watershed approach to the boundary would be the most efficient way to address these local priorities.

During the scoping process, several public comments on the program boundary reflected a preference to expand the inland boundary. Some comments, however, did reflect a preference to reduce the inland boundary to closer to the shoreline. Based on the local priorities identified in the 1995 Public Workgroups, the need to address water quality concerns, and the need for efficiency in working with local governments, the state determined that the watershed was still the preferred alternative for defining the inland boundary. Due to the lack of clear and compelling data on the natural groundwater divide on the Valparaiso Moraine, the preferred boundary was based on surface water flow to Indiana's portion of Lake Michigan.

The preferred inland boundary is described based on U.S. Geological Survey Quadrangle maps and major roads for each county. A detailed written description of the boundary is in Appendix E of the program document. The preferred alternative for the program boundary is located in the northern portion of Lake, Porter, and LaPorte counties and extends into the Lake to the jurisdictional border with Illinois and Michigan. It excludes lands owned, leased, or held in trust for the federal government. At its widest extent, the boundary extends away from the shoreline 17 miles to the Crown Point area and at its narrowest point, less than 2 miles, just north of Hudson Lake in LaPorte County. The boundary follows the 45-mile shoreline and approximately 52 miles along an east-west trajectory across the Valparaiso Moraine.

### **Consultation and Coordination**

All local, state and federal agencies referenced in Appendix F were consulted during initial development and public review of the Scoping Document and P/DEIS.

## **C. AFFECTED ENVIRONMENT**

### **Introduction**

The term "coastal waters" in the Great Lakes area means "the waters within the territorial jurisdiction of the United States consisting of the Great Lakes, their connecting waters, harbors, roadsteads, and estuary-type areas such as bays, shallows and marshes." The coastal waters in Indiana, therefore, consist of those waters of Lake Michigan within the territorial jurisdiction of Indiana. The LMCP's lakeward coastal

boundary is the jurisdictional border that Indiana shares with Illinois and Michigan. The inland boundary is based on U.S. Geological Survey Quadrangle maps and major roads for each county. The western boundary is the Indiana-Illinois state line and the eastern boundary is defined by Quadrangle map features and a county line.

The Lake Michigan Basin drains approximately 604 square miles of portions of Lake, Porter and LaPorte counties. The Grand Calumet River, Indiana Harbor Ship Canal, Trail Creek and Little Calumet River are the major tributaries in the basin.

For purposes of organization, this chapter concerning the environment affected by Indiana's coastal program is described under the broad categories of Physical Environment, Natural Resources, Socio-Economic Characteristics, and Environmental Quality.

## **1. Physical Environment**

### Indiana's Lake Michigan Coastal Region

The physical features of the coastal region have been a major factor in the growth and development of coastal Indiana. Although the southern basin of Lake Michigan is predominately urban and is one of Indiana's most populated and industrialized areas, many types of natural areas are still found in northwestern Indiana. Bogs, boreal and sand flatwoods, natural lakes, fens, dune forest, shrub bogs, dune and swale, prairie, and sedge meadow are found in the three counties of Lake, Porter and LaPorte that extend along the 45 mile southern shoreline of Lake Michigan. This occurrence is unique because so many diverse types of natural areas are found in a relatively small geographic area. In fact, about 30% of Indiana's Lake Michigan region remains in its natural state. More than 6,000 acres of parks and nature preserves are owned by state or local government to protect natural communities and provide recreational opportunities.

In 1925, Indiana protected 3 miles of Lake Michigan shoreline in the Indiana Dunes State Park. Today, the park protects 2,182 acres of diverse habitat. In 1966, Indiana Dunes National Lakeshore was established. The National Lakeshore protects about 11 miles of shoreline and approximately 13,000 acres throughout the coastal region in discontinuous parcels often referred to as the West Unit and East Unit. The Indiana Dunes National Lakeshore is ranked 7<sup>th</sup> among national parks in native plant diversity. There are 1,418 vascular plant species documented within the park and lakeshore boundaries, of which 90 are on the State of Indiana's list of threatened or endangered species (National Park Service 2001). Beachgrass and bearberry are found at the base of the dunes; sumac, sand cherry, cottonwood, and prostrate juniper are found higher up the dunes; while the backdunes are forested with nearly pure stands of black oak, mixed with a few white oaks and stunted sassafras.

### Water Level Fluctuation and Erosion

Fluctuations in water levels of Lake Michigan have occurred continually since the lake was formed at the end of the last Ice Age. The level of each of the Great Lakes, including Lake Michigan, depends on the balance between the quantities of water received and the quantities of water removed. Changes in lake levels affect the extent of flooding, shoreline erosion and property damage, wetland acreage, depths of navigation channels, and hydroelectric power output (DNR 1994). Up to 5,500 years ago, the lake was 23 feet higher than today, drowning the areas that are now Gary, East Chicago, northern Hammond, Miller, Ogden Dunes, Dune Acres, Beverly Shores and northern Michigan City. Lake level records have been kept for Lake Michigan since 1860 at Harbor Beach, Michigan.

During the 10-year period between 1964 and 1974, there was a six-foot rise in water level. During periods of high lake levels, storms cause considerable flooding and shoreline erosion, which often results in property damage. The highest monthly average lake level recorded, 581.94 feet (IGLD 1955) occurred in June 1886. The lowest monthly average lake level recorded, 575.35 feet (IGLD 1955) occurred in March 1964. This is a difference of 6.59 feet in water level since records have been kept.

The intensity of storms on Lake Michigan plays a primary role in determining the amount of erosion that occurs in any given year. Without storms there would be no waves or currents to move large quantities of sand along the beach and lake bottom. In general, times with high lake levels and severe storms usually result in the highest erosion rates along the unprotected portions of Indiana's shoreline. Times of low lake levels and mild storms usually result in low erosion rates.

The ACOE completed a study in 1978 entitled *Report on Indiana Shoreline Erosion*. The report details areas along the shoreline where erosion damage occurred and projects future erosion damages. The ACOE concluded in the report that of Indiana's 45 miles of shoreline, only 2.25 miles were subject to critical erosion. In 1988, Purdue University evaluated the Indiana coast and updated the erosion assessment. Changes in coastal dynamics caused by man-made structures changed the classification of 13 miles of shoreline with a recession rate greater than 3 feet per year in the original study to 9.5 miles. Of the 9.5 miles, approximately 6.0 miles were located in the State Park and National Lakeshore, and 3.25 miles were well protected by structures. Only 0.25 mile of shoreline with a recession rate greater than three feet per year was determined to be unprotected.

Additional information on lake level fluctuations, erosion, and storms can be found in Appendix G: Coastal Processes Affecting Indiana's Lake Michigan Shoreline.

Beach nourishment activities are encouraged through Indiana state statute. The "Sand Nourishment Fund" (IN 14-25-12) provides a mechanism to protect and increase sand in Indiana along Lake Michigan. Nourishment sand is regularly provided by the dredging efforts of the Northern Indiana Public Service Company (NIPSCO). NIPSCO must dredge to keep its water intake at the Bailly Plant from being clogged by sand trapped updrift of the Port of Indiana. Seventy-five percent of the dredged sand is "by-passed" to Ogden Dunes and deposited on the outer sand bar. The other 25% is "back-passed" to Beverly Shores.

Four designed beach nourishment projects have been conducted in Indiana by the ACOE. In 1974, 22,700 cubic yards of sand was placed in front of Mount Baldy. The second beach nourishment in 1981 was at the same Mount Baldy location using 80,000 cubic yards of sand. Approximately 10,000 cubic yards of material dredged from the Michigan City Harbor in 1996 was deposited in a previously used lake-bottom site near the Michigan City Lighthouse. An additional 45,000 cubic yards of material from this project was pumped to a beach area of the Indiana Dunes National Lakeshore, adjacent to Mount Baldy, as beach nourishment.

### Geology

Glaciers that advanced and retreated during the Ice Ages created the natural physical features that characterize the physiographic provinces or landforms of coastal Indiana. The Calumet Lacustrine Plain and the northern portion of the Valparaiso Morainal Area are within the coastal region. These areas are distinct due to their topography and the effect glaciers had on their landscapes. Each area contains end moraines that were formed by the advance and retreat of glacial Lake Michigan. End moraines, ridge-like accumulations of drift built along the outer edge of a glacier, mark the limits of glacier Lake Michigan during the last ice age.

As the glaciers retreated and lake levels became lower, they left behind the beaches and sand dunes that comprise the Valparaiso Morainal Area. This region is composed of three sections: Valparaiso Moraine, Chicago Lake Plain, and Lake Michigan Border. The crest of the Valparaiso Moraine divides the Kankakee River Basin to the south from the Lake Michigan Region to the north. This is also the divide between the water bound for the Mississippi River and the waters bound for the St. Lawrence Seaway. The Valparaiso Moraine is the largest and oldest end moraine in the coastal region

The Calumet Lacustrine Plain is composed of sand ridges and massive high dunes. It lies between the Valparaiso Morainal Area and Lake Michigan. The Plain ranges in elevation from about 580 feet at the present shoreline to as much as 760 feet above mean sea level at dune-capped beach ridges. The predominant topographic expressions in the Calumet Lacustrine Plain are three relict dune-capped beach ridges separated by extensive interridge marshes. The relict beaches, moving towards the shoreline, are Glenwood Beach, Calumet Beach, and Tolleston Beach.

### Soils

In the Lake Michigan region, the distribution of the major soil types is closely related to the physiographic terrains of the region: clayey or loamy soils found in the Valparaiso Morainal Area, and sandy soils found in the Calumet Lacustrine Plain. Soils on the end moraines of the Valparaiso Morainal Area have been developed primarily in clay-rich glacial till. Loamy soils are more common in the eastern part of the morainal area, where stratified, mixed drift of the Valparaiso Moraine are present in northern LaPorte County. The soils that are formed on morainal swells and slopes are well drained, but the soils on plains, on ice-block depressions, and on relict glacial drainage ways are poorly drained. In the Calumet Lacustrine Plain, sandy soils occur on dune and beach complexes and on lacustrine and coastal deposits. The well-drained soils occur on the dune and beach ridges, whereas the poorly drained soils are present in interridge depressions, drainage ways, and lake-plains.

Soil development in most of the Lake Michigan region occurred under a cover of mixed hardwood forest; however, some soils in Lake and Porter counties developed under prairie grasses. Prairies originally made up only about 15% of the state, primarily in the northwest and west-central portions of the state. Most of the original prairie in the state has been lost to drainage, urbanization and agriculture. Indiana's prairies originally included rich black-soil prairies and sand prairies. The soils of black-soil prairies were extremely rich, and as a result, nearly all of these were plowed for agriculture. High-quality remnants of black-soil prairies are rare in Indiana. Many of the small remnant prairie tracts that remain are pioneer cemeteries and old railroad right-of-ways that were never plowed. Hoosier Prairie protects a high quality remnant of prairie landscape near Griffith in Lake County and Cressmoor Prairie Nature Preserve in Lake County is the largest protected example of a silt-loam or "black soil" prairie in Indiana.

### Climate

The coastal climate of Indiana is classified as temperate continental and is characterized by warm summers, cool winters and a lack of a pronounced dry season. Weather statistics for northwestern Indiana show normal monthly mean temperatures of 22.2F in January and 73.3F in July and an annual precipitation of 37.86 inches (Indiana Historical Bureau 2001). Regional variations in temperature and precipitation are further increased by the presence of Lake Michigan and the Gary-South Chicago metropolitan area, which can cause localized weather modifications. One such modification, the "lake effect" caused by Lake Michigan, produces annual snowfall averages of 70 inches in Lake, Porter and LaPorte counties, which are about twice the normal amount received elsewhere in northwestern Indiana (DNR 1994).

The weather in the Great Lakes basin is affected by three factors: air masses from other regions, the location of the basin within a large continental landmass, and the moderating influence of the lakes themselves. The prevailing movement of air is from the west. The characteristically changeable weather of the region is the result of alternating flows of warm, humid air from the Gulf of Mexico and cold, dry air from the Arctic (U.S. EPA 1995).

### Nature Preserves

Indiana's system of nature preserves was established by a 1967 Act of the General Assembly. The nature preserve system has grown to be the most widely distributed system of protected lands in the state. Preserves are managed to provide permanent protection for significant natural areas and to maintain and restore natural ecological conditions. They are usually open to the public for hiking and nature study, or by advance permission, for scientific research. A natural area is an area of land and water that has retained or re-established its natural character, or has unusual flora or fauna, or has biotic, geological, scenic or paleontological features of scientific or educational value. Some examples of outstanding nature preserves in the coastal region include:

- Cressmoor Prairie Nature Preserve in Lake County is the largest protected example of a silt-loam or “black soil” prairie in Indiana. Black soil prairies were once the most common prairies in Indiana. Over 250 species of plants have been found at Cressmoor Prairie. Typical prairie species occurring here in great numbers include wild quinine, dense blazing star, rattlesnake master, prairie dock, and compass plant.
- Gibson Woods Nature Preserve, managed by the Lake County Parks Department, protects remnants of the very rare “ridge and swale” topography formed thousands of years ago during the retreat of glacial Lake Chicago. Gibson Woods contains the longest undissected dune ridge in Indiana, outside of the National Lakeshore. Communities include: dry-mesic sand savanna with an overstory of black oak and understory of bracken fern, mesic sand prairie dominated by big bluestem and tall coreopsis; wet-mesic forest dominated by pin oak and speckled alder. A number of very rare plants are found here, including paper birch, Kalm’s St. John’s-wort, and golden sedge. The preserves support a wide variety of wildlife, including the rare Franklin’s ground squirrel.
- Hoosier Prairie Nature Preserve in Lake County is a large remnant of the prairie landscape that was once common in northwest Indiana. This tract preserves the topographic and biotic diversity of the sand plains north of the Valparaiso Moraine. Plant diversity is exceptionally high here due to a wide range of moisture conditions. There are over 350 native species of vascular plants, at least 43 which are uncommon in the state. Sand rises support dry black oak savannas. Mesic sand prairie openings can be found on slopes between the rises and swales. Wet prairies, sedge meadows and marshes are scattered throughout the preserve in depressions and flats.
- Dunes Nature Preserve in Porter County comprises the eastern two-thirds of Indiana Dunes State Park. Dunes Nature Preserve protects the best natural features of the park including beach, foredunes, backdunes, and wetlands.
- Springfield Fen Nature Preserve in LaPorte County protects a high quality prairie fen that contains many prairie grasses and forbs. Several species of plants considered rare, threatened or endangered in Indiana grow here.



Indiana has dedicated 8 nature preserves in Lake County, 4 in LaPorte County and 2 in Porter County.

Table 1: Nature Preserves in the Coastal Program Area

<b>Lake County</b>	<b>Primary Manager</b>
Clark and Pine (limited access)	DNR Nature Preserves
Cressmoor Prairie	Shirley Heinze Fund
Gibson Woods	Lake County Parks & Recreation Department
Hoosier Prairie	DNR Nature Preserves
Liverpool	DNR Nature Preserves
McCloskey's Burr Oak Savanna	DNR Nature Preserves
Seidner Dune and Swale	Shirley Heinze Fund
Tolleston Ridges	Lake County Parks & Recreation Department
<b>LaPorte County</b>	<b>Primary Manager</b>
Barker Woods	The Nature Conservancy
Springfield Fen	DNR Nature Preserves
Little Calumet Headwaters	LaPorte County Parks Department
Wintergreen Woods	LaPorte County Conservation Trust
<b>Porter County</b>	<b>Primary Manager</b>
Dunes	DNR State Park
Moraine	DNR Nature Preserves

## 2. Natural Resources

### Fish and Aquatic Habitat

The surface waters of the Lake Michigan coastal area include: Lake Michigan, the Little Calumet River, Grand Calumet River, Turkey Creek, Deep River, Salt Creek, Coffee Creek, Dunes Creek, Trail Creek, the Galena River; several smaller tributaries and man-made ditches; many natural and man-made lakes; ponds and man-made excavations; and scattered remnants of marshes, swamps, and other wetlands. The present hydrology of Lake Michigan coastal area in Indiana is significantly changed from what existed

before development. The industrialization and urbanization that began in northwest Indiana during the late nineteenth century extensively altered the natural landscape and natural drainage patterns.

Many fresh water lakes lie within the Lake Michigan region. Lakes were formed through depressions carved by the glaciers, buried glacial ice, inter-ridge swale depressions, isolation of old river channels that became oxbow lakes, and artificially created pits and impoundments. The two largest artificial impoundments in the coastal region are Lake George in Hobart and Lake Louise in west Central Porter County. An unknown number of lakes in the region have been totally destroyed or greatly diminished in size by drainage or infilling.

The protection of fish spawning areas is important in maintaining commercial and recreational fish resources. In 1967, Indiana's Wetland Conservation Program was initiated for the purchase of lands for hunting, fishing, trapping, hiking, boating, and similar recreational activities. Some of these conservation areas provide protection for fish and spawning habitat. One of the properties acquired under this program is the Galena Wetland Conservation Area in LaPorte County. This 165-acre site is located on the headwaters of the Galena River where migrating salmon and trout pass through the area.

Many native fish species have been lost by over-fishing, destruction of shoreline and stream habitat or the arrival of aquatic nuisance species such as zebra mussels, round gobies, eurasian watermilfoil, purple loosestrife, spiny water fleas, sea lampreys, and alewives. Pollution, especially in the form of nutrient loading and toxic contaminants, has placed additional stresses on fish populations and habitat. Other effects result from damming, canal building, altering tributaries to the areas in which spawning takes place and where distinct ecosystems once thrived. Native stocks of lake trout once comprised a great resource in Lake Michigan; however, predation by the parasitic sea lamprey, intense commercial fishing in the 1940s and 1950s, and the invasion of alewives depleted the populations of lake trout. These disruptions in the native fish community and food web, coupled with habitat alterations and degradation, contributed to the decline of important commercial and sport fisheries. Rehabilitation of the Lake Michigan fish community began in 1960 with the extension of the sea lamprey control program to Lake Michigan, stocking of lake trout, and the introduction of coho salmon, chinook salmon, brown trout and steelhead trout. The Indiana Division of Fish and Wildlife has been stocking salmon and trout along the northwest Indiana shoreline since the late 1960s. The introduction of these species has produced a more stable and productive fish community.

Other species of freshwater fish found in Lake Michigan and Indiana's inland waters include largemouth, smallmouth, striped, hybrid striped, white and spotted bass; channel, blue, white and bullhead catfish; walleye and sauger perch; bluegill, redear, and crappie sunfish; muskellunge; whitefish; northern pike; rainbow smelt; lake herring; rainbow (steelhead), brown and lake trout; chinook and coho salmon; shovelnose sturgeon and lake sturgeon (endangered); longnose gar; freshwater drum; paddlefish; American eel; and blue suckers (a species of special concern).

#### Wildlife and Terrestrial Habitat

The Northwestern Morainal Region is composed of three sections: Valparaiso Moraine, Chicago Lake Plain, and Lake Michigan Border. All share certain plants and animals in common, but each has its own unique character.

The Valparaiso Moraine contains all the major community types of northern Indiana. The eastern end of the moraine originally was mesic forests of American beech, sugar maple, tuliptree, and red oak, with an abundance of characteristic spring wildflowers. Wetlands were also an important community within the dominant forest habitat. Wetlands included shrub swamps of buttonbush to kettle lakes with floating mats

of yellow spatterdock, white water lilies, and water shield. Two of the more interesting wetland types in this section are fens and bogs.

Farther west in Porter and Lake counties, the forest thinned into oak openings dominated by bur and white oaks. The true tallgrass prairie, characterized by big bluestem grass, Indian grass, compass plant, prairie dock, leadplant, and purple prairie clover, was found in western Lake County and extended into Illinois.

The Chicago Lake Plain is located below and northward of the Valparaiso Moraine. Sands and mucks underlie this flat, poorly drained area. As a result wetlands were numerous, especially along the Little Calumet and Grand Calumet Rivers. Much of this area has become highly industrialized and urbanized. There are a few small, high-quality remnants remaining.

The Chicago Lake Plain supported a large diversity of plants and animals in part due to the unique swell and swale topography. The topography consists of alternating east-to-west wetlands and uplands originally consisting of more than 100 ridges extending south from Lake Michigan. Wetlands varied from shrub swamps to cattail and bulrush marshes, with floating aquatics such as pondweed, pickerelweed, water lilies, and milfoils present. Sand prairie and savanna occurred on the tops and sides of the dry, sandy ridges. Prairie was composed of little bluestem, sand reed grass, blazing star, and spiderwort, among other species. The savannas had many of the same prairie species but also included more typical species such as black oak, bracken fern, wild sarsaparilla, lupine, and goat's-rue.

Also within the Chicago Lake Plain, in the extreme eastern portion, boreal flatwoods were dominant. Boreal flatwoods is a northern community that occupied poorly drained soils. Standing water and tip-up mounds made by tree windfalls were common. Overstory trees included northern pin oak, black gum, red maple, tuliptree, and white pine. The ground flora was an interesting assemblage of several ground pine species, wintergreen, partridge berry, and gold thread scattered among fronds of royal and cinnamon fern.

The Lake Michigan Border Section occupies a narrow strip of land immediately adjacent to Lake Michigan from the eastern edge of Lake County to the Michigan State line. The most prominent physical features in this section are tall sand dunes towering in some areas more than 175 feet above the lake.

The harsh environment of the beach reduces the diversity of life able to survive there. Annuals such as sea rocket, bug-seed, and seaside spurge can survive. Just inland are the foredunes, which have become stabilized by deep-rooted grasses such as little bluestem, beach grass, and sand-reed grass. Shrubs such as red-osier dogwood, aromatic sumac, sand cherry, and prostrate juniper add diversity to the foredunes. The federally threatened Pitcher's thistle occasionally occurs on the foredunes. This species is found only along the shores of Lake Michigan and Lake Huron.

Scattered among the foredunes are shallow depressions created by winds scouring the dunes. These areas usually retain water all year long and are called pannes. Characteristic plants include Kalm's lobelia, fringed gentian, rose gentian, stiff aster, and bladderworts. Many of these plants also occur in fens in the uplands of the moraines.

In the high dunes, two different types of plant communities are encountered. Savannas dominated by white and black oaks with an understory of Pennsylvania sedge, bracken fern, lupine, and other sun-loving wildflowers are found on dry, sunny, south-facing slopes. Cool, north-facing slopes have species that are more mesic, such as red oak, basswood, flowering dogwood, and hepatica. Scattered through the dunes are stands of white pine and jack pine.

Indiana had an estimated 5.6 million acres of wetlands when European settlers arrived. Since then, more than 85 percent of the wetland acreage has been lost, with many of the original wetlands drained and

converted to farmland and urban areas. Most of the remaining 813,000 acres of wetlands are located in the northeastern portion of Indiana, along river flood plains in southwestern Indiana, and in the Lake Michigan shoreline region in northwestern Indiana. Lake County has an estimated 19,760 acres of wetlands, Porter County has an estimated 18,100 acres, and LaPorte County has an estimated 25,383 acres.

Wetlands are a major hydrologic feature of the Lake Michigan Region. Based on a 1981 inventory by the U.S. Fish and Wildlife Service (FWS), the region contains about 7,242 wetlands covering a total of approximately 65 to 68 square miles or rough 11 percent of the total land area. Based on inventory data, palustrine wetlands constitute about 98 percent of the region's wetlands and about 92 percent of the total wetland area. Examples of palustrine wetlands include marshes, swamps, bogs, sloughs, and fens. Palustrine wetlands that are characterized by forest vegetation and those characterized by emergent vegetation, such as cattails, together constitute 59 percent of the wetlands and 76 percent of the wetland area.

About 50 percent of the region's wetlands are either seasonally flooded or temporarily flooded. These wetlands serve important roles in the watershed, but can be difficult to identify when they are not flooded. The region also supports several small wetlands. About 40 percent of the region's individual wetlands are one acre or smaller; 48 percent are between one acre and 10 acres; 10 percent are between 10 acres and 40 acres; and 2 percent are greater than 40 acres.

Indiana's Nongame and Endangered Wildlife Program (NEWP) began in 1982 with passage of legislation that created the nongame check off on the Indiana state income tax form. This check off gives residents the opportunity to donate all or a portion of their state tax refund to help support NEWP projects. The main goal of NEWP is to protect and manage more than 550 species of nongame and endangered animals in the state. These species comprise 85 percent of all the state's wildlife. The NEWP also maintains a listing of Indiana's endangered wildlife species, including federally listed species that occur in Indiana, available at <http://www.ai.org/dnr/fishwild/nongame/e-list.htm>.

Some examples of wildlife found in coastal Indiana include red and gray fox, raccoon, opossum, coyote, deer, beaver, mink, turkey, muskrat, weasel, skunk, squirrel, woodchuck, bald eagle, peregrine falcon, and sandhill crane. Federally endangered, threatened and candidate species listed for the coastal region include:

- American Burying Beetle (*Nicrophorus americanus*)
- Bald eagle (*Haliaeetus leucocephalus*)
- Dune Thistle (*Cirsium pitcheri*)
- Eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*)
- Indiana bat (*Myotis sodalis*)
- Mitchell's satyr butterfly (*Neonympha mitchellii mitchellii*)
- Karner blue butterfly (*Lycaeldes melissa samuelis*)
- Mead's milkweed (*Asclepias meadii*)
- Ohio Emerald Dragonfly (*Somatochlora hineana*)
- Piping plover (*Charadrius melodus*)
- Peregrine falcon (*Falco peregrinus*)
- Prairie white-fringed orchid (*Platanthera leucophaea*)

Wild lupines are a host plant for the Karner Blue butterfly that depends on it as its sole larval food source. The sand dunes on the shoreline of Lake Michigan provide important habitat for lupines and the butterflies.

The shoreline is especially important for migrating birds. Lake Michigan affects the movement and distribution of birds by acting as an obstacle to migrants. The shores of this enormous lake provide leading lines that control flight paths of numerous migrants. Migration distances can be substantial and the resulting loss of body fat makes it essential to immediately land for rest and feeding. The need to 'refuel' generates an anomalously high concentration of passerines in park woodlands immediately adjacent to the lake. One group of migratory birds, referred to as neotropical migrants, migrate long distances to breed in northern forests and spend winter in the tropics. In Indiana, over 40 neotropical migratory bird species are species of special management concern because of declines in their populations. A second group of birds requiring stopover and coastal breeding habitat are shorebirds. Although the majority of shorebirds migrate to the Arctic Circle in the spring, a few species such as the Piping plover, listed as a federally endangered species, reproduce in the coastal and interior regions. From 1930 to 1987, the Piping Plover was considered common. The plover vanished as a nesting species from many areas beginning in the 1930s, with dramatic losses in the Great Lakes region. Censuses as recent as 1997 accounted for only 3,500 to 4,200 individuals throughout the range of the species. The causes for this drastic decline can be linked to the loss or alteration of nesting and wintering areas.

In May of 2001, the FWS designated critical habitat for the Piping plover. Critical habitat is a term used in the Endangered Species Act of 1973, as amended. It refers to specific geographic areas that are essential for the conservation of a threatened or endangered species and that may require special management consideration or protection. These areas do not necessarily have to be occupied by the species at the time of designation. This means that areas must be identified which will allow for the protection of the current population, and any population increases that may be required to achieve recovery (allowing the species to be removed from the endangered species list). In Indiana, critical habitat for the Piping plover has been designated by the FWS on 4.9 miles of Lake Michigan shoreline in Porter County. It includes areas that were historically occupied by Piping plovers. The designation includes 3.1 miles of Indiana Dunes State Park Shoreline and 1.8 miles of Indiana Dunes National Lakeshore shoreline. The area extends from the western boundary of the Cowles Bog/Dunes Acres lakeshore unit, east of the Port of Indiana and the NIPSCO Baily Generating Station and along the Indiana Dunes State Park to Kemil Road at Beverly Shores.

Section 7(a) of the Endangered Species Act requires all Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its proposed or designated critical habitat. If a species is listed or critical habitat is designated, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of the species or to destroy or adversely modify its critical habitat.

Most of the forests in Indiana grow south of Indianapolis and most of the \$2.5 billion a year forest products industry is concentrated in rural communities in the southern half of the state (Evergreen 1998). Hardwood species cover 96 percent of forestland with oak, hickory, maple, and yellow poplar being the most common of the more than 80 hardwood species found in the state. The most valuable species include red and white oak, walnut, cherry, yellow poplar, sugar maple, ash, hickory and basswood. Native evergreen species have not been common since the last glaciation. Although natural growth of white and jack pine is found in some areas of northern Indiana, most of the softwoods grow on plantations in the southernmost region of the state. In the coastal region, the tops and upper leeward slopes of the backdunes are forested with nearly pure stands of black oak, mixed with a few white oaks and stunted sassafras.

The DNR Division of Fish and Wildlife has designated public and private lands that provide productive habitat for fish and wildlife through the voluntary Classified Wildlife Habitat Program. These are areas capable of supporting wildlife species and are managed by the standards of good wildlife management. The Division of Forestry has also designated productive public and private lands that maintain a healthy

forest environment through the voluntary Classified Forest Program. Areas in the northern portions of LaPorte and Porter Counties have been identified as Forest Legacy Areas. These forests represent the diminishing northwest morainal forest type and provide wildlife habitat, recreation, aesthetic values and community greenspace. The Forestry Legacy Program identifies environmentally important forests and protects them by purchasing the development rights from willing sellers.

### 3. Socio-economic Characteristics

#### Demographics

A 1998 population estimate indicates that approximately 733,500 people or almost 13 percent of the state's population live in Indiana's three coastal counties (IDEM, County Profiles, 1995). This represents about a 4 percent decline in population since 1970 (NOAA 1990). The county expected to grow at the fastest rate between 1988 and 2010 is Porter County. This county, in the eastern half of the Gary-Hammond metropolitan area, is expected to experience continuous growth even though the metropolitan area as a whole has been losing population over the last decade. In the coastal area, residential uses comprise 39 percent of total land area, recreational uses make up 24 percent, agriculture is 20 percent, commercial is 12 percent, and 5 percent is in "other uses"

Six cities (Hammond, East Chicago, Whiting, Gary, Portage, and Michigan City) and six towns (Ogden Dunes, Burns Harbor, Dune Acres, Porter, Beverly Shores, and Long Beach.) are located along the Lake Michigan shoreline. The unincorporated residential community of Duneland Beach and a small part of the unincorporated area of Michiana Shores also occur along Indiana's shoreline. The watershed includes portions of the following political townships: North, St. John, Hanover, Calumet, Ross, Center, Hobart, Ross, and Winfield in Lake County; Portage, Union, Porter, Westchester, Liberty, Center, Morgan, Pine, Jackson, and Washington in Porter County; Michigan, Coolspring, New Durham, Springfield, Center, Galena and Hudson in LaPorte County.

<b>TABLE 2. GENERAL COUNTY PROFILES (IDEM, County Profiles, 1995)</b>			
<b>County</b>	<b>Lake</b>	<b>Porter</b>	<b>LaPorte</b>
<b>Population (1998 est.)</b>	478,323	145,726	109,461
<b>Land Area (sq. mi.)</b>	497	418	598
<b>State Population Rank</b>	2	7	13
<b>Population Density (per sq. mi.)</b>	956.9	308.3	179
<b>Largest City</b>	Gary	Portage	Michigan City

In addition to population data, development activity is also indicative of growth. According to the NOAA report *Building Along America's Coasts, 20 Years of Building Permits, 1970-1989*, about half of all residential and non-residential construction in the United States between 1970 and 1989 occurred in coastal areas (NOAA 1992). During this twenty-year period, Indiana issued building permits for 66,894

residential units and 4,251 non-residential units in its three coastal counties. Lake and Porter counties were the leading counties with 37,202 and 20,540 residential and 2,531 and 1,017 non-residential permits issued, respectively.

### Commerce and Industry

Coastal industries are significant to Indiana's economy. The Lake Michigan shore is home to the fifth largest oil refinery in the world, 25 percent of the nation's steel production, and the busiest port in the Great Lakes. The International Port/Burns Harbor near Portage is a deepwater port that handled 2.3 million metric tons of cargo in 1999. The primary cargoes were steel, fertilizer, potash, salt, coal, grain and containers (Indiana Port Commission 1999).

Large tracts of land along Lake Michigan and the Calumet River are used for steel production while refining and storage of petrochemicals are located primarily near the Indiana Harbor Canal. Other industries include railcar, truck and automobile assembly; scrap processing; and chemical manufacturing.

Today, large industry contributes a dominant share to the local economy, including the payment of property taxes. The ten largest industries paid approximately \$175 million in property taxes in 1996. These companies are Bethlehem Steel, Burns Harbor Division; LTV Steel; Cerestar (formerly American Maize); Inland/ISPAT Steel; National Steel, Midwest Division; Lever Brothers; USX; Praxair; NIPSCO; and BP-Amoco. The steel industry employs nearly 30,000 area residents, generating nearly \$20 million daily into the Indiana economy.

Significant contributions to the regional and state economy are also provided by agribusiness, as well as commercial and service sectors. Additional major industries including chemical companies are located along the Grand Calumet River and the Indiana Ship Canal and Harbor. More than 36 facilities throughout Northwest Indiana manufacture plastics and related materials. Non-manufacturing jobs are also an important component of the coastal economy. Non-manufacturing jobs increased by 29 percent between 1983 and 1996. Wholesale trade is up 40 percent, and the service industry has seen considerable growth in the last 25 years.

A total of 20 commercial fishing licenses are still held for 13 operations. Commercial fishing boats operate out of Michigan City, Burns Waterway and the Ship Canal. The state also licenses 43 charter boat operations for sport fishing. These boats use all the marinas on the shoreline with some moored in Burns Waterway. In 1988, Indiana fishermen brought in 1.3 million pounds of fish that generated close to \$1.7 million dollars for the state's economy.

### Water Usage

The Department of Environmental Management regulates water systems in Indiana. Most Indiana residents get drinking water from a community water supplier, which uses either groundwater from wells or surface water from lakes or rivers. Seventy-two percent of households get their drinking water from a public water supply facility or private water company, up from 70 percent in 1970. The other 28 percent still rely upon individual wells (IDEM 2000).

The DNR maintains a registration for significant water withdrawal facilities. A significant water withdrawal facility is defined as a facility capable of withdrawing at least 100,000 gallons per day of surface water, ground water, or a combination of the two. In 1998, there were 18 registered withdrawal facilities that used Lake Michigan surface water. These registered withdrawal facilities included 4 fossil fuel power facilities, 8 industrial facilities, and 6 public supply facilities.

Table 3 shows the types of drinking water and sewage systems used in Lake, Porter, and LaPorte counties.

<b>TABLE 3. TYPES OF DRINKING WATER AND SEWAGE SYSTEMS USED BY PERCENT OF POPULATION (IDEM, County Profiles, 1995)</b>			
<b>County</b>	<b>Lake</b>	<b>Porter</b>	<b>LaPorte</b>
<b>Private Wells</b>	9.4 %	30.4 %	36.9 %
<b>Community Systems</b>	90.6 %	69.6 %	63.1 %
<b>Private Septic Systems</b>	10.3 %	31 %	43.1 %
<b>Public Sewage Systems</b>	89.7 %	69 %	56.9 %

#### Industrial and Mineral Extraction

Mineral resources utilized in Indiana include coal, stone, natural gas, gravel, gypsum, peat, sand and gravel, and clay. In 1996-1997, Indiana ranked 8<sup>th</sup> in the nation in coal production. About 95% of the coal is extracted using surface mining methods, while the balance is mined using room and pillar underground technology. Approximately 2.7 million cubic feet of dimension limestone are quarried annually (Indiana Historical Bureau 2001<sup>2</sup>). Dredging operations are normally associated with extraction of sand and gravel from the bottom of lakes, reservoirs, rivers, and streams. Sand-mining operations were once a large industry in Indiana's coastal region.

#### Agriculture

Agricultural statistics are available on a county basis, and thus include areas lying outside the coastal program area. However, the data for the three counties lying partially within the coastal program area provides a general overview of agricultural land use.

Table 4, taken from "The Rankings of States and Counties in the 1997 Census of Agriculture", provides some interesting information on the importance of agriculture in the three coastal counties. LaPorte is the leading agricultural county, with the market value of its agricultural products sold far exceeding both Lake and Porter counties. The number of beef and dairy cattle is also much greater than the other counties.

<b>TABLE 4. ASSORTED AGRICULTURAL STATISTICS FOR COASTAL COUNTIES (Census of Agriculture, 1997)</b>			
<b>County</b>	<b>Lake</b>	<b>Porter</b>	<b>LaPorte</b>
<b>Land in Farms (acres)</b>	123,954 to 172,687	123,954 to 172,687	201,638 or more
<b>Value of Crops Sold (dollars thousands)</b>	36,446 to 48,740	18,318 to 36,445	48,741 or more



<b>Market Value of Ag Products Sold</b> (dollars thousands)	26,420 to 52,177	26,420 to 52,177	79,374 or more
<b>Farm Operators Reporting Principal Occupation as Farming</b>	0 to 219	220 to 296	355 or more
<b>Number of Cattle</b>	2,900	4,900	23,600

Additional information from *The Rankings of States and Counties in the 1997 Census of Agriculture* includes:

- Tomatoes, cucumbers and pickles, hay, and winter wheat are also important agricultural products
- Indiana was the 5<sup>th</sup> leading state in the U.S. in 1997 in the amount of tomatoes harvested for sale with 7,360 acres in cultivation. LaPorte County was the 55<sup>th</sup> leading county in the U.S. with 587 acres of tomatoes planted; Porter County with 385 acres was the 76<sup>th</sup> leading county.
- Porter County was the 100<sup>th</sup> leading county in the U.S. in cucumbers and pickles harvested for sale with 291 acres in production.
- The 3 coastal counties are also leading producers of hay. Porter County was the 8<sup>th</sup> leading county in the state with a yield of 4.05 tons.
- In 1999, Lake County was the third leading county in Indiana in the production of winter wheat with a yield of 82 bushels per acre.
- Other important agricultural products include hogs, dairy products, corn, soybeans, oats, rye, tobacco, potatoes, apples, peaches, peppermint, and spearmint.

### Recreation and Tourism

The Indiana Lake Michigan coastal area provides excellent opportunities for outdoor recreation and tourism. In 1996, visitors to the Indiana coastal counties spent \$523,229,703; Lake County ranked third among the state's 92 counties in tourism dollars (Indiana Department of Commerce, 1997).

Lake Michigan draws many recreational boaters to its waters. There were 229,778 boats registered in Indiana in 1999, an increase from the 214,474 registered in 1998 (NMMA 2000). Marinas supporting boat launches, boat storage, public fishing, public beaches and parks have been developed in Michigan City, Portage, East Chicago, and Hammond. In total, over 2,100 marina slips were available in 1998. The Hammond Marina is one of the nation's largest with 1,113 slips, five launch ramps and fishing piers. Associated with the marinas are Indiana's Lake Michigan casino boats. Millions of visitors visit the five casino boats annually and coastal residents work at the casinos. In total, the Empress (now called the Horseshoe Casino), the Blue Chip Casino, the Majestic Star, the Showboat Mardi Gras Casino (now Harrah's), and the Trump Casino generated almost \$190 million in tax revenue in 1997.

Recreational fishing impacts the coastal economy. Based on Lake Michigan angler surveys from 1992 through 1995, approximately 110,000 trout and salmon fishing trips were taken and 93,000 fish were harvested annually with an annual economic impact of \$2.8 million. Data from the 1996 National Survey of Fishing, Hunting, and Wildlife Associated Recreation estimates that 761,000 residents and non-resident anglers, age 16 and over, took fishing trips on the Great Lakes. Total spending by anglers for Great Lakes fishing trips totaled \$16,909,000 in 1996, an average of \$280 per angler.

The public beaches along the Indiana Lake Michigan coastline also draw summertime crowds for sunbathing, swimming and picnicking. In LaPorte County, the Michigan City Washington Park Beach draws 60,000 visitors in the summer while the Indiana Dunes State Park and National Lakeshore has over 1.6 million visitors annually (Coast Alliance 1995). Indiana Dunes State Park and the National Lakeshore extend for nearly 15 miles along the shoreline in Lake, Porter and LaPorte Counties.

About half of the 45-mile (72.5 km) shoreline is sand beach. Most beaches are either in public ownership or accessible by easement agreements from the shoreline. However, access from land is limited in several areas by lack of public transportation or parking for cars. Demand for public access is intense and growing.

In 1997, Indiana Dunes State Park had approximately 850,000 visitors and 16,000 campers. Public campgrounds are available at Indiana Dunes State Park and the National Lakeshore. Other important recreational uses of the shoreline include picnicking, nature study, bird watching, and walking.

### Fishing

Many native species of fish have been eliminated from Lake Michigan and the other Great Lakes by over-fishing, habitat destruction and the invasion of exotic or non-native species, such as the sea lamprey and the alewife. Populations of lake trout, sturgeon and lake herring have been reduced by the proliferation of alewife, smelt, splake (a hybrid of the native lake trout and brook trout) and salmon.

Landings of commercial fish in Indiana have been declining. Although the 1.30 million pounds of fish landed in 1988 increased to 1.53 million pounds in 1989, landings decreased to 353,000 pounds in 1990 and 658,000 pounds in 1991 (Coast Alliance 1995).

There has been a 90 percent decline in yellow perch populations in the Indiana waters of Lake Michigan in recent years. This decline has caused new limits to be placed on their commercial harvest. In 1984, commercial fishing operations took approximately 1,000,000 pounds of yellow perch from Indiana waters. In 1995, the quota for the commercial take was reduced to 360,000 pounds. In 1996, the take was additionally reduced to 160,000 pounds. Since yellow perch is a species critical to the continued vitality of fishing on Lake Michigan, this decline imposes a burden to both recreational (including some charter-boat operations) and commercial interests.

The DNR, Division of Fish and Wildlife has stocked trout and salmon along the shoreline of Lake Michigan since 1969. The number of trout and salmon stocked from 1986 to 1997 ranged from 600,617 to 941,487 fish and averaged 827,292 fish per year. As the trout and salmon sport fishery developed, so did the charter boat industry. By the mid-seventies, charter boats were harvesting a large number of trout and salmon each year. In 1987, Indiana enacted legislation for regulation of the charter industry to require accurate reporting of catch records. The number of charter licenses issued to fish Lake Michigan during the 1998 charter season was 42, compared to 45 licensed operators in 1997. The number of licenses has steadily decreased from a high of 79 licensees in 1989. Since 1994, the number of charter licenses has ranged between 35 and 45. Harvest rates (number of fish harvested per 100 angler-hours) by charter anglers in 1998 compared to 1997 decreased for coho salmon, chinook salmon, and brown trout, while rates for steelhead and lake trout increased.

### Historical Sites and Structures

Based on archival and documentary research, the 225 square miles of Lake Michigan under Indiana's jurisdiction are thought to contain as many as 50 shipwrecks of vessels lost since the 1830's. As of 1989,

14 vessels had been located and 8 inventoried. The shipwreck site of the *Muskegon*, which now lies off the west side of Mount Baldy - has been placed on the National Register of Historic Places.

The Indiana Division of Historic Preservation and Archaeology lists the following historic sites on the National Register:

#### **Lake County**

- Morse Dell Plain House and Garden, 1923, 1926 Hammond
- Ralph Waldo Emerson School, 1908 Gary
- Gary Bathing Beach Aquatorium, 1921
- Gary City Center Historic District, 1906-1944
- Gary Public Schools Memorial Auditorium, 1927
- Gary Land Company Building, 1906
- Hobart Carnegie Library, 1915
- Hoosier Theater Building, 1924 Whiting
- Knights of Columbus Building, 1925 Gary
- Lake County Courthouse, 1878 Crown Point
- Lake County Sheriff's House and Jail, 1882 Crown Point
- Marktown Historic District, 1888-1926 East Chicago
- Miller Town Hall, 1911 Gary
- Pennsylvania Railroad Station, 1910 Hobart
- State Bank of Hammond Building, 1927
- Stallbohm Barn- Kaske House, c. 1890, c. 1920 Munster
- West 5<sup>th</sup> Avenue Apartments Historic District, 1922-1928 Gary
- Whiting Memorial Community House, 1923
- John Wood Old Mill, 1838 Merrillville
- William Whitaker Landscape and House, Crown Point
- First Unitarian Church of Hobart, 1875-1876, Hobart
- State Street Commercial Historic District, Hammond

#### **LaPorte County**

- John H. Barker Mansion, 1905 Michigan City
- Michigan City East Pierhead Light Tower and Elevated Walk, 1904
- Michigan City Lighthouse, 1858
- Muskegon Shipwreck Site 1872-1911
- Washington Park, 1891, 1933-1941 Michigan City
- Michigan City Post Office, 1909-1910, Michigan City

#### **Porter County**

- Beverly Shores South Shore Railroad Station, 1929
- George Brown Mansion, 1885 Chesterton
- Norris and Harriett Coombs Lustron House, 1950 Chesterton
- Heritage Hall, 1875 Valparaiso
- Imre and Maria Horner House, 1949 Beverly Shores
- Immanuel Lutheran Church, 1891 Valparaiso
- Dr. David J. Loring Residence and Clinic, 1906 Valparaiso
- New York Central Railroad Passenger Depot, 1914 Chesterton
- Porter County Jail and Sheriff's House c. 1860, c. 1871
- Porter County Memorial Hall, 1893 Valparaiso
- Porter City Hall, 1913, Porter
- David Garland Rose House, c. 1860 Valparaiso
- Valparaiso Downtown Commercial District, c. 1870-1930
- Weller House, c. 1870, Chesterton
- Nike Missile Site C47, c. 1955, Portage area

The Division of Historic Preservation and Archaeology also maintains the following list of sites in the coastal region for the Indiana State Register:

**Lake County:**

- William Barringer Brown House, 1897 Crown Point
- William Whitaker Landscape and House, Crown Point
- First Unitarian Church of Hobart, 1875-1876, Hobart
- State Street Commercial Historic District, Hammond

**LaPorte County**

- Haskell and Barker Car and Manufacturing Company, C. 1900 Michigan City
- Michigan City Post Office, 1909-1910, Michigan City

**Porter County**

- Clarence H. Martin House, 1903 Valparaiso
- Nike Missile Site C-47, c. 1955 Portage area
- Josephus Wolf Home, 1875 Valparaiso

**4. Environmental Quality**

The quality of the coastal region's air, water, and land has improved greatly since the enactment of the Clean Water Act, the Clean Air Act, and the Superfund Act. These environmental laws provided the guidance and support for the state to regulate discharges of pollutants into the state's air and water and to also regulate the storage, transport, and disposal of potentially hazardous wastes. However, the coastal region is still faced with the impacts of today's industrial economy and the legacy of past industrial pollution.

Reporting to the Toxic Release Inventory (TRI) is required by the Superfund Amendment and Reauthorization Act in order to provide the public with information on the releases of 650 toxic chemicals that may occur in their communities. According to the TRI, 50 facilities in Lake County, 18 facilities in Porter County, and 26 facilities in LaPorte County reported toxic releases or environmental wastes in 1997 (TCRI 1999). The US Steel Gary Works reported the largest amount of toxic chemical releases while Bethlehem Steel Corporation in Porter County reported the 8<sup>th</sup> largest amount in the state. The US Steel Gary Works and Vitamins Inc. in LaPorte County were also leading generators of waste.

Air releases make up greater than 90 percent of total releases under the TRI. The percent of total releases to water increased to 3.46 percent in the 1997-reporting year, primarily due to changes in reporting requirements. The percent of total releases to land has continued to decrease to 0.13 percent in 1997 reporting year.

The Indiana Department of Environmental Management (IDEM) is the primary state agency charged with the regulation and management of the state's air, water, and land quality.

**Air Quality**

Air quality is an important environmental concern in the coastal region. It not only affects environmental and human health, but also affects the type of economic development that can meet strict air quality standards. Air monitoring is accomplished by IDEM and in cooperation with several local agencies. Air

monitoring stations for ozone, sulfur dioxide, carbon monoxide, lead, particulate matter, and toxic chemicals are located throughout northwestern Indiana.

Ozone monitoring began in 1973 and has been conducted by state and local agencies at numerous sites in Gary, Hammond, Ogden Dunes, National Lakeshore, Michigan City, and LaPorte. The Clean Air Act Amendments of 1990 designated the Chicago-Gary-Lake County area (including Lake and Porter Counties) as Severe-17 Nonattainment areas for ozone. Lake and Porter Counties are also classified as nonattainment of the 1-hour ozone standard. Continuous monitoring of sulfur dioxide began in Indiana in the early 1970's. With the exception of an area near Buffington Harbor in Lake County where monitored values have remained at approximately 30 percent of the standard, the data show a steady decrease in sulfur dioxide concentrations statewide. Carbon monoxide is being monitored in East Chicago but monitoring was discontinued in Gary because of exceptionally low concentrations. Although several facilities that process lead maintain monitoring sites, there are no areas in Indiana where ambient lead levels have exceeded state and federal health standards since 1994. IDEM operates 11 sites for monitoring particulate matter in the three coastal counties. The Office of Air Quality in the IDEM conducts TOX Watch, a two-year air monitoring study that began in June 1999. The main focus of the study is to evaluate the exposure of children to toxic compounds emitted into the air. IDEM is monitoring for 87 chemicals at numerous sites in 4 counties across the state, including 8 sites in Lake County.

### Water Quality

The industrial development of the coastal region has left a legacy of water quality problems. Great improvements have been made in regulating point sources and reducing non-point sources of pollution; however, many water bodies are still impaired. Sources of water pollution include discharge from industries, community wastewater treatment facilities, contaminated stream-bottom sediments, and non-point pollution including urban run-off, stream bank erosion, and construction site run-off. Water quality was cited by 58 percent of respondents during a survey at six state recreational sites along Lake Michigan as being the most important concern.

The state reports to the U.S. Environmental Protection Agency (U.S. EPA) all waters that do not meet water quality standards in the 303(d) Report. The water bodies are assessed for their levels of contaminants, pathogens, *E. coli*, and for impaired biotic communities. Several portions of rivers, lakes, and Indiana's portion of Lake Michigan are listed as impaired in the 303(d) 1989 report including portions of the following waterbodies:

- Beaver Dam Ditch
- Deep River
- Dunes Creek
- Grand Calumet River
- Indiana Harbor Canal
- Little Calumet River
- Niles Ditch
- Salt Creek
- Trail Creek
- Turkey Creek
- Grand Calumet River lagoons/Marquette Park Lagoon
- Lake George (Hobart)
- Wolf Lake

Water quality is a serious concern for the coastal region. Each year, fish monitoring data is used to develop the new statewide fish consumption advisory based on levels of polychlorinated biphenyls (PCBs) and mercury found in fish tissue. The 2001 Indiana Fish consumption Advisory included advisories for Lake Michigan, its tributaries, and the following lakes: Lake George, Marquette Park Lagoon, and Wolf Lake. The Grand Calumet River and Indiana Harbor Canal is designated as a Group 5 Advisory in which it is recommended that no fish be consumed. The International Joint Commission has established 43 Areas of Concern for the Great Lakes basin in the United States and Canada. The Grand

Calumet River/Indiana Harbor Canal was selected as an Area of Concern and has all 14 designated beneficial uses of its waters impaired. The state, EPA, and local stakeholders are conducting Remedial Action Planning for the Area of Concern. In addition, several dredging projects and a Natural Resource Damage Assessment case are planned in the Area of Concern to address the legacy of contaminated stream-bottom sediments.

The state has designated the coastal region as a priority watershed under the Unified Watershed Assessment program. The Unified Watershed Assessment designated the watershed as a priority for protection and restoration in part because the region contains one of the highest concentrations in the state of critical biological resources of most concern. The state also participates in the Lake Michigan Lakewide Area Management Plan, which was developed in cooperation with the EPA and other states bordering Lake Michigan. The Plan outlines steps that are needed for Lake Michigan to meet the U.S. and Canadian Great Lakes Water Quality Agreement.

Most of the ground water found in the three unconsolidated aquifer systems underlying the coastal region meets drinking water standards. However, water quality in some localities may be diminished by human-induced aquifer pollution. Water samples were collected from 128 wells in a large industrial and urban area in northwestern Indiana and northeastern Illinois during June 1993. This area, known as the Calumet Region, includes northwestern Porter County and northern Lake County and is underlain by a relatively thin surficial sand aquifer, the Calumet aquifer. The largest concentrations of trace elements and organic compounds were detected in or near industrial areas or areas of waste disposal (Duwelius et al., 1993). Ground water withdrawals near the coast are used primarily for industrial purposes while withdrawals away from the coast are used primarily for public and domestic drinking water supplies.

Indiana's Lake Michigan shoreline is rated as partially supporting recreational uses due to periodic beach closings caused by elevated levels of *E. coli* bacteria. Indiana is one of only five states nationwide to regularly test the water near its beaches using standards recommended by the EPA (NRDC 1996). Indiana uses these standards and performs this test on a weekly basis during the swimming season. To eliminate the need to periodically restrict swimming at beaches during the summer due to high levels of bacteria, several agencies have joined to form the Interagency Task Force on *E. coli* to determine the causes and solutions to periodic bacterial contamination of swimming waters. The Task Force includes experts from local, state, and federal agencies with regulatory, planning, and management responsibilities in Northwest Indiana.

On October 10, 2000, the Beaches Environmental Assessment and Coastal Health Act of 2000 was enacted.<sup>1</sup> This federal legislation requires states to establish water quality criteria for coastal recreational waters for specific pathogens and pathogen indicators. In addition, states are required to establish a monitoring and notification program for coastal recreational waters based on standards developed by the EPA. The IDEM is the agency responsible for monitoring water quality and establishing water quality rules and monitoring standards. The DNR, especially the Indiana Dunes State Park, will work closely with IDEM to implement future changes to the monitoring of coastal recreational waters.

In 2001, IDEM proposed to EPA that Indiana participate in the BEACH Act. Indiana, through the Interagency Task Force for *E. coli*, has been developing standards for beach monitoring and public notification, two elements of the BEACH Act. Through its 2001 application, IDEM intends to contract with an entity that will use a geographic information system to further evaluate and characterize Lake Michigan beaches. The contractor also will facilitate the BEACH contract work with the Interagency Task Force for *E. coli*. IDEM intends to award a contract by early 2002.

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<sup>1</sup> Public law 106-284

## Land Quality

Thousands of contaminated Indiana properties require cleanup. Many are actively under investigation or cleanup. Once identified, contaminated sites are assessed for their potential threats to human health and the environment, which determines the approach taken to clean them up. Prior to the 1970s, waste disposal was largely uncontrolled. Some industries dumped hazardous wastes onto the land and left drums filled with hazardous materials outside to leak and corrode. Contaminated sites include landfills, wood treating facilities, foundries, mining or manufacturing sites, and others. These sites are contaminated with heavy metals, chemicals, pesticides, cleaning solvents, sludges, acids, asbestos, petroleum, and other waste materials.

The coastal region contains two permitted landfills, one high priority abandoned landfill site, and several sites under cleanup programs. Sites requiring cleanup are predominately located in the industrial northwest portion of the coastal region. Although there are sites that require cleanup or investigation located throughout the coastal region.

The coastal region continues to have a concentration of industries. Lake County was one of the two counties in Indiana that had the highest releases of toxic chemicals from facilities. These two counties contributed more than 24 percent of the total toxic chemical releases. The coastal region is one of four regions designated as priority for their large urban populations and significant manufacturing activity. Together, the four regions account for 54 percent of the total reported releases of carcinogenic chemicals for Indiana in 1998.

Past and present industrial activities continue to challenge the coastal region's ability to protect and restore the quality of coastal lands. There are several sites identified and/or regulated by the IDEM including leaking underground storage tanks, illegal tire dump sites, EPA identified hazardous waste sites under the Superfund Program, state identified hazardous waste sites under the state Cleanup Program, and sites enrolled in the State Voluntary Remediation Program. In addition to identifying and cleaning up contaminated sites, Indiana encourages source reduction and recycling to reduce waste.

The IDEM Office of Pollution Prevention and Technical Assistance (OPPTA) provides assistance on financial, program or technical matters related to reducing pollution and recycling. OPPTA has several programs that address specific needs or industries, provides outreach and education workshops, and administers award and recognition programs. In addition, the volunteer Partners for Pollution Prevention, made up of over 100 members, was formed to advise IDEM on pollution prevention policies and to provide a forum to exchange ideas and techniques.

IDEM also formed the Indiana Materials Exchange. The Indiana Materials Exchange facilitates recycling and reuse of industrial and commercial waste. A listing of materials available and wanted is maintained and distributed. The listing service is provided free of charge to users.

Brownfields are an important issue in the coastal region for both land quality and for economic prosperity. The IDEM, Office of Land Quality, in conjunction with the EPA's Brownfields Economic Redevelopment Initiative, has begun its own Brownfields Program.

Indiana defines a brownfields site as an industrial or commercial property that is abandoned, inactive, or underutilized, on which expansion or redevelopment is complicated due to the actual or perceived environmental contamination. Redevelopment of brownfield properties benefits communities by rejuvenating vacant buildings, increasing the tax base and reducing blight. Because the potential

environmental liability at these properties is unknown, prospective purchasers are unwilling to assume the risk of undetermined potential cleanup costs. Thus, the properties remain idle.

In response to this situation, IDEM's Brownfields Program provides assistance in many different forms:

- The Brownfields Program has conducted workshops across the state to inform stakeholders about available resources for brownfields redevelopment and may conduct additional small-scale/informal workshops upon request.
- IDEM has also organized the Interagency Brownfields Task Force, which brings together representatives from several statewide agencies to collectively share and present resources for brownfields redevelopment. This task force has formed a subgroup called the Interagency Brownfields Advisory Team to provide direct community assistance to address specific brownfields issues. A Resource Guide that is the result of the task force's efforts is now available online for download and viewing.
- Brownfield Environmental Assessments are available to units of government to address environmental issues that may be encountered when redeveloping brownfields properties. The environmental assessment seeks to answer many of the questions regarding potential cleanup costs and environmental liability at those properties where there is a true desire for redevelopment. These assessments are conducted at no charge for a unit of government; community organizations only need to get the support of the governing county or city.
- Because of the fear of potential environmental liability, the Brownfields Program has developed Comfort and Site Status Letters as another service. These letters are designed to limit the liability of past actions by previous owners, so as to encourage an entity to redevelop a brownfields property.
- IDEM, in conjunction with the Indiana Development Finance Authority, offers financial assistance in the form of grants and low-interest loans.
- The Brownfields Program works hand in hand with IDEM's Voluntary Remediation Program, should the unit of government or prospective purchaser wish to pursue a Certificate of Completion and a Covenant Not to Sue.

A unique, locally led partnership has also formed in the coastal region to address brownfields. The Northern Indiana Center for Land Reuse (NICLR) connects businesses and developers with community, financial, and government resources to catalyze redevelopment, especially of brownfield properties. Formed by a partnership between the nonprofit Delta Institute, Northwest Indiana Forum, and the Northern Indiana Public Service Company (NIPSCO), NICLR's goal is to transform brownfield properties from liabilities to community assets, releasing their potential for generating new tax revenues, jobs, and other social and environmental benefits.

## **D. ENVIRONMENTAL CONSEQUENCES**

In enacting the CZMA, Congress declared that "it is national policy to preserve, protect, develop, and where possible, restore or enhance the resources of the Nation's coastal zone for this and succeeding generations." States are to achieve these potentially conflicting goals by improving governmental coordination, incorporating consideration of long-term implications of development decisions, and instituting a more rational decision-making process that conforms to CZMA policies. Such actions have the potential to substantially affect future coastal area activity and have a significant positive environmental impact. The CZMA requires giving full consideration to ecological, cultural, historic and aesthetic values as well as to needs for economic development when considering various development proposals.



Thus many factors and diverse, often conflicting values, between resource protection and development must be weighed. The CZMA requires that a balance must be achieved which allows or plans for development, while still protecting unique and critical resources.

It is the intent of the LMCP to carry out these legislative mandates of the CZMA. Therefore, the environmental, institutional and socio-economic effects are expected to be primarily beneficial. The LMCP will provide more coordinated decision-making with a greater focus on critical coastal issues such as coastal areas of significance, coastal hazard management, and nonpoint source pollution.

There are four impacts associated with approval of the LMCP: (1) impacts resulting from federal approval and (2) impacts attributable to the implementation of the LMCP. In contrast to approving the LMCP the Assistant Administrator could decide to (3) deny, or (4) delay approval of the Program. In general, such impacts are discussed with respect to direction of change (positive or beneficial, negative or neutral) and with respect to duration (long-term or short-term). Because the proposed action is approval of a broad ranging program, quantification of net effects is not possible.

## **1. Effects Resulting from Alternative 1: Federal Approval of the LMCP**

### **Direct Effects and Cumulative Impacts:**

#### **Section 306 Funding**

Federal approval will enhance the State of Indiana's financial ability to carry out its various coastal management efforts in accordance with LMCP policies. The state will rely to a considerable degree on the program funding made available in annual grants under Section 306 of the CZMA, both for program administration and for the coastal grants program. Program administration funding will provide additional resources to enhance implementation of core LMCP laws. Local governments, as well as a broad range of other entities, will benefit from money available through the LMCP. Section 306 funding for the coastal grant program will be used for environmentally and socio-economically beneficial efforts, such as the following:

- (1) Feasibility studies and engineering reports for projects that are consistent with the policies in the coastal program document;
- (2) The protection and preservation of wetlands, beaches, fish and wildlife habitats, natural areas, prime agricultural land, endangered plant and animal species, or other significant natural coastal resources;
- (3) The management of shoreline development to prevent loss of life and property in coastal flood hazard areas and coastal erosion areas, to set priorities for water-dependent energy, commercial, industrial, agricultural, and recreational uses, or to identify environmentally acceptable sites for dredge spoil disposal;
- (4) Increasing public access to Lake Michigan and other public places in the coastal area;
- (5) The protection and preservation of historical, cultural, or aesthetic coastal resources;
- (6) Improving the predictability and efficiency of governmental decision making related to coastal area management;

- (7) The redevelopment of deteriorating and underutilized waterfronts and ports; and
- (8) Other purposes approved by the Director.

Funding for such efforts is expected to have direct beneficial impacts on the natural and socio-economic environment of the coastal region, through protection of natural areas and other sensitive resources, waterfront revitalization, comprehensive planning, streamlining of permits and the monitoring of their effects, and conflict resolution. The integrated management approach of a coordinated LMCP is expected to result in direct benefits to the environment through a heightened proactive focus on coastal resource management. The LMCP provides the framework for a partnership among state and local agencies and other entities, public and private, to cooperate to preserve, protect, develop and restore the region's unique values.

### **Federal Consistency Review**

Federal approval and implementation of the LMCP will have effects upon federal agency actions. Approval will activate the federal consistency review provisions of Section 307 of the CZMA. The LMCP federal consistency process and relevant provisions of 15 CFR Part 930 are described in Chapter 11. Because federal consistency entails early coordination and closer cooperation in planning as well as review of project proposals, it is presumed that federal consistency will provide another means to minimize the potential for adverse environmental impacts. This is considered to be a desirable impact and one of the main purposes of the CZMA.

The LMCP has been developed with the assistance and input of numerous federal agencies having responsibility for activities in or affecting the coastal area. Therefore, conflicts between the LMCP's enforceable policies and federally permitted or conducted activities should be minimal. Federal activities will not be excluded but rather will be required to be consistent with the LMCP's policies.

### **National Interest**

Chapters 12 and 13 of the LMCP describe land and water uses of regional benefit, coordination with federal agencies, and consideration of national interest are integrated in the program. As the Indiana coastal program includes formal procedures for considering national and regional interests in comprehensive planning and decision making for the coastal area, the potential for conflicts between state, regional and National goals is reduced. In implementing the LMCP, Indiana will provide such avenues for considering the national interest in program decisions.

### Indirect Effects and Cumulative Impacts:

#### **Government Coordination and Streamlining**

The Indiana Department of Natural Resources (DNR) is designated as the lead agency for development and implementation of the LMCP. The functions and authorities of DNR with respect to LMCP administration, described in detail in Chapter 4, provide a cohesive framework for improved and integrated decision-making regarding coastal issues. The Indiana Environmental Protection Act, Memoranda of Understanding between DNR and other agencies, as well as state consistency review by DNR further foster unified coordination. Decisions and activities of federal, state and local agencies as well as those within DNR will be monitored, coordinated and mediated by the LMCP to assure

consistency with the LMCP. Greater consistency and streamlining of the decision-making process, is expected to improve the predictability of that process and bring about beneficial environmental and institutional impacts.

Assuring state agency consistency with the coastal program will help maintain program strength. As with federal consistency provisions and mechanisms, the impacts are expected to be positive. Improved coordination and cooperation throughout project planning and review will serve to minimize adverse impacts and to enhance predictability of decision-making regarding state projects that may affect coastal resources. The LMCP structure and the methods to assure state consistency are described in Chapter 4.

### **Improved Coordination and Partnerships with Local Government Agencies**

The LMCP will establish partnerships and shared priorities with local government agencies as well as local stakeholders through its implementation. This will primarily be achieved through the Coastal Grants Program. By identifying priorities and supporting local projects, the LMCP will be able to work closely with local governments to address common goals.

### **Coordinated Priority Identification and Public Participation**

The LMCP will facilitate coordinated priority identification for coastal issues through the program's Coastal Areas of Significance and through the Coastal Grants Program.

The LMCP will facilitate the identification of priority issues and activities to protect, restore, and develop Coastal Areas of Significance. The LMCP defines Coastal Areas of Significance as coastal areas that have special conditions that require increased attention due to their unique coastal characteristics or due to the competition for their resources. The LMCP will devote attention to Coastal Areas of Significance by identifying areas and their potential for partnership opportunities. The LMCP will also work to bring attention to their special conditions, improve agency coordination, increase technical assistance, encourage research, support local planning, and support coordinated identification of priorities for the area. State and local agencies, local organizations, and the general public will be able to nominate Coastal Areas of Significance.

The LMCP will also facilitate coordinated priority identification and public participation through the implementation of the Coastal Grants Program. The purpose of the Indiana Coastal Grants Program is to preserve, protect, restore, and where possible to develop the resources of the coast for this and succeeding generations and to achieve wise use of the land and water resources of the coastal region, giving full consideration to ecological, cultural, historic, and esthetic values as well as to needs for economic development. Grant proposal guidance will be developed annually to assist applicants in identifying projects that meet the objectives of the program. To accomplish this, the LMCP will host an annual public meeting to collect input on the next grant cycle's priorities and to identify emerging issues. The planning meeting will include agencies and organizations eligible to receive grants and the general public. The DNR will also form a stakeholders advisory group to provide input for the Coastal Grants Program. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region.

## **2. Impacts Resulting from Alternative 2: Denying Federal Approval of the LMCP**

Several environmental, economic and social impacts could result if OCRM decided to deny approval of the LMCP. An obvious direct impact is the loss of federal funds to administer the Program. Under section 306 of the CZMA, Indiana is estimated to receive approximately \$900,000 annually to implement its coastal program. Another direct impact is that consistency of federal actions, as required by section 307, CZMA, would be lost to Indiana. The loss of state consideration of the national interest would be a direct impact of choosing this alternative. Adequate consideration of the national interest in siting facilities of national interest, as required by CZMA section 306(d)(8), would be lost and could result in the cumulative impacts to public use of those facilities. Further, an indirect effect would be the continuation of the status quo regarding protection and use in Indiana's coastal zone. Another indirect effect would be that technical assistance available to Indiana from OCRM would be lost without federal approval of the LMCP. These direct and indirect effects would result in cumulative negative impacts to the environment, to public access, and to government coordination and streamlining in Indiana's coastal region.

## **3. Impacts Resulting from Alternative 3: Delaying Federal Approval of the LMCP**

The direct, indirect, and cumulative impacts listed above that result from denial of federal approval of the LMCP also apply to delaying approval of the Program. Further, continued delay at this juncture makes it unlikely, due to limits in funding, that Indiana will enter the federal program in the future.

## **E. Unavoidable Adverse Environmental Effects**

The probable effects of the Indiana LMCP implementation will be environmentally beneficial.

With or without the program, impacts associated with the siting of major facilities for purposes of defense, transportation, and energy requirements in which both the state and federal governments have interest, will continue. It is important to note, however, that under the Coastal Zone Management Program and related federal laws (e.g., National Environmental Policy Act), such projects will be evaluated as to the impacts on the natural coastal environment. That is, investigations will be made, alternatives considered, etc. The LMCP also makes provisions for consideration of the national interest in the siting of these facilities.

No new major facilities for energy generation are planned in Indiana's coastal area, and it is anticipated that oil and gas facilities will remain largely unchanged. However, peak use generation facilities have increased in Indiana and it is expected that there will be applications to site a small number of these new facilities in the coastal program area.

## **F. Relationship between Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity**

While approval of the Indiana LMCP may limit some local, short-term, uses of the environment, it will also provide long-term assurance that the natural resources and benefits provided by the Indiana Lake

Michigan coast will be available for future use and enjoyment, by more effectively administering existing resource protection laws.

The Indiana LMCP recognizes in the short-term that some coastal-dependent developments have adverse environmental consequences, but that they may still have to be located in the coastal zone to protect the inland environment as well as help provide for orderly economic development, and meet national interest.

Regarding the long-term use of the environment the LMCP recognizes the coastal zone as a delicately balanced ecosystem; establishes a process of balanced management of coastal resources; allows growth to continue while protecting key resources; and provides a framework which can protect regional, state and national interests by assuring the maintenance of the long-term productivity and economic vitality of coastal resources necessary for the well-being of the public. Beneficial changes will likely promote avoidance of long-term costs to the public and a diminished quality of life resulting from the misuse of coastal resources.

## **G. Irreversible and Irretrievable Commitments of Resources**

The only irretrievable or irreversible commitment of resources that will result directly from the approval of the Indiana LMCP is the commitment of state and federal funds and personnel for the purpose of achieving the goals and objectives of the Program. However, Indiana will rely on and network the significant personnel resources, committed prior to LMCP approval, for the management of Indiana's coastal resources. It is presumed that some irretrievable and irreversible commitments of economic and environmental resources will occur during the implementation of the Indiana Program. This Program is designed to balance the need for development with the need for the protection and enhancement of coastal environmental resources by avoiding, minimizing and mitigating the consequences of coastal development on resources such as wetlands and shallow water habitats.

The Program ensures that any such proposed state or federal activities that commit coastal resources are subjected to comprehensive review as individual actions and as an action contributing to the cumulative impacts taking place on coastal resources. Such review will ensure that those irretrievable and irreversible commitments of resources that are undertaken under the Indiana LMCP are made with full awareness of the consequences of those commitments.

## Part IV: LIST OF PREPARERS

**Suzanne Bass** – Attorney for the Office of General Counsel, Ocean Service of the National Oceanic and Atmospheric Administration. Ms. Bass earned a J.D. from Southern Methodist University Law School.

**Steve Davis** – the Indiana Department of Natural Resources, Division of Water, Lake Michigan Specialist since 1987. Mr. Davis received a Bachelor of Science degree in Biology in 1973, and a Master of Science degree in Geosciences, specializing in Marina Science (coastal processes), in 1976, both from Purdue University in West Lafayette, Indiana. Prior to working for the Department of Natural Resources, he was the “Research Coordinator” of the Great Lakes Coastal Research Laboratory at Purdue University from 1978 to 1982. From 1982 to 1987 he continued this work as a “Graduate Instructor in Research” for the Great Lakes Coastal Research Laboratory. The Great Lakes Coastal Research Laboratory involved conducting coastal dune, beach and lake bottom surveys and overseeing research projects dealing with coastal processes affecting Indiana’s Lake Michigan coastline.

**Dawn Deady** – Ms. Deady contributed significantly to the development of the LMCP while serving as coordinator from 1993 to 1998 for the Coastal Coordination Program, Department of Natural Resources, Division of Water. Ms. Deady earned Bachelor of Science from Indiana University in the School of Public and Environmental Affairs.

**Jim Hebenstreit**- Assistant Director of the Division of Water, Indiana Department of Natural Resources. Mr. Hebenstreit serves as the state representative for the Coastal States Organization and on technical committees for the Great Lakes Commission and Council of Great Lakes Governors. He has worked for the Department of Natural Resources for 28 years. Mr. Hebenstreit earned a Bachelor of Science in Biology from Purdue University.

**Erin Hiatt-Tirmenstein**- Graphic Designer, Division of Water, Indiana Department of Natural Resources. Ms. Hiatt-Tirmenstein assisted in developing and publishing the LMCP, including several graphics used in the document. She also attends the Herron School of Art where she is working towards a degree in Art History.

**Stephen L. Lucas** - Director, Division of Hearings, Natural Resources Commission. Mr. Lucas received his B.A. at Indiana University, Bloomington and J.D. at the University of Notre Dame. He is licensed to practice before the Indiana State Bar. In addition to his responsibilities as Director, he serves as the Indiana legal liaison to the Coastal States Organization and the Indiana alternate commissioner to the Great Lakes Commission. Mr. Lucas is a member of the Indiana State Bar Association, including past Chair of the Environmental Law Section and formerly an officer in the Alternative Dispute Resolution Section. He is author of several publications, including regular contributor to the *Indiana Survey for Waters and Water Rights* published by Michie.

**Diana K. Olinger** - Assistant Regional Manager, Great Lakes Region, Coastal Programs Division, Office of Ocean and Coastal Resource Management. Ms. Olinger received her B.A. in Biology from Kenyon College and completed her Masters of Marine Policy, on academic scholarship, at the University of Delaware. She worked as Special Assistant to the Under Secretary for Oceans and Atmosphere, U.S. Department of Commerce, during her year as a Dean John A. Knauss Marine Policy Fellow. She also worked for one year at the NOAA, National Marine Fisheries Service, Chesapeake Bay Office, prior to joining the staff at OCRM in April 1994.

**Thomas Ross-** Mr. Ross worked for the Indiana Department of Natural Resources, Division of Water in the Lake Michigan Coastal Program from 1999 to 2000. He conducted extensive legal research for Federal Consistency regulations, state policies on energy facility siting and regulation, and issues concerning national and regional interests in State policy. Mr. Ross received his Bachelor's of Art from Marian College in Indianapolis and his J.D. from Indiana University. In his previous position, Mr. Ross worked for the Indiana Department of Environmental Management as an attorney.

**Laurie Rounds** – Lake Michigan Coastal Program Manager, Division of Soil Conservation, Indiana Department of Natural Resources. Ms. Rounds has been Program Manager for the LMCP since 1998. She serves on the Lake Michigan Monitoring Coordination Council and as the state alternate for the Coastal States Organization. From 1996 to 1998, Ms. Rounds worked as the Restoration Ecologist for the Contaminants Program in the DNR Division of Fish and Wildlife. Ms. Rounds received a Master of Science degree in Wildlife Ecology and Conservation from the University of Florida. She also completed a Graduate Certificate in Wetland Science from the University of Florida's Center for Wetland Studies. Ms. Rounds earned a Bachelor of Science in Business Administration from the University of Central Florida.

## **Part V: LIST OF AGENCIES, ORGANIZATIONS AND INDIVIDUALS RECEIVING COPIES OF FEIS**

### Federal Agencies

Council on Environmental Quality  
Department of Agriculture  
    Farm Service  
    Forest Service  
    Natural Resources Conservation Service  
Department of Commerce  
    National Ocean Service, NOAA  
    National Marine Fisheries Service, NOAA  
    Economic Development Administration  
Department of Defense  
    Air Force  
    Army Corps of Engineers  
        --Headquarters  
        --District office  
    Marine Corps  
    Navy  
Department of Energy  
Department of Health and Human Services  
Department of Housing and Urban Development  
Department of the Interior  
    U.S. Fish and Wildlife Service  
    U.S. Geological Survey  
    National Park Service  
Department of Justice  
Department of Transportation  
    Federal Aviation Administration  
    Federal Highway Administration  
    Maritime Administration  
    U.S. Coast Guard  
Environmental Protection Agency  
    Office of Federal Activities  
    Assessment and Watershed Protection Division  
    Office of Wetlands, Oceans and Watersheds  
    Nonpoint Source Coordinator, Region V  
Federal Emergency Management Agency  
Federal Energy Regulatory Commission  
Federal Maritime Commission  
General Services Administration  
Interstate Commerce Commission  
National Aeronautics and Space Administration  
Nuclear Regulatory Commission



### State and Regional Agencies and Local Governments

Local Public Libraries in the coastal counties  
Local County, city, and other municipal agencies  
Offices of the Mayors of the Coastal Program Area  
Indiana Department of Administration  
Indiana Department of Commerce  
State Emergency Management Agency  
Indiana State Department of Health  
Indiana Department of Transportation  
Indiana Department of Environmental Management  
Indiana Office of the Commissioner of Agriculture  
Indiana Utility Regulatory Commission  
Indiana Natural Resources Commission  
Indiana Office of Environmental Adjudication  
Indiana Department of Natural Resources Division Directors  
Indiana Ports Commission  
Indiana Historical Society  
Northwestern Indiana Regional Planning Commission

[Note: In addition, the Indiana DNR has mailed copies to its U.S. Congressional delegation, and individuals, groups and organizations on their mailing lists.]

### National Interest Groups

American Association of Port Authorities  
American Bureau of Shipping  
American Farm Bureau Federation  
American Institute of Planners  
American Petroleum Institute  
American Planning Association  
American Sport Fishing Association  
Association of State Floodplain Managers  
Boat U.S.  
Boating Industry Association  
Center for Marine Conservation  
Chambers of Commerce of the U.S.  
Clean Water Network  
Coast Alliance  
Coastal States Organization  
Conservation Fund  
Environmental Defense Fund, Inc.  
Environmental Law Institute  
Environmental Policy Center  
Friends of the Earth  
Great Lakes Commission  
Great Lakes Sport Fishing Council  
Isaak Walton League of America  
Lake Carriers Association  
League of Women Voters of the U.S.  
National Association of Conservation Districts

National Association of Counties  
National Association of Home Builders of the U.S.  
National Audubon Society  
National Fisheries Institute  
National League of Cities  
National Parks and Conservation Association  
National Recreation and Parks Association  
Natural Resources Defense Council  
National Wildlife Federation  
Nature Conservancy  
Shore and Beach Protection Association  
Sierra Club National Coastal Committee  
Soil and Water Conservation Society  
U.S. Sailing Association

Individuals and other Interested Parties

Upon request, copies were sent to all individuals and other interested parties not listed as receiving copies of the FEIS.

## Part VI: References for FEIS

### A. Sources Consulted for Preparation of the Description of the Affected Environment Portion of the FEIS

Census of Agriculture 1997. *Ranking of States and Counties. Vol. 2, Subject Series, Part 2.*

Coast Alliance 1995. *State of the Coasts, A State-by-State Analysis of the Vital Link Between Healthy Coasts and a Healthy Economy.* June 1995.

Duwelius, R., R. Kay, and S. Prinos June 1993. *Ground-Water Quality in the Calumet Region of Northwestern Indiana and Northeastern Illinois, June 1993.* Water-Resources Investigations Report 95-4244. U.S. Geological Survey.

Evergreen 1998. *Forests and Forestry In Indiana.* The Evergreen Foundation. January 1998.

Indiana County List of Threatened and Endangered Species 1999  
([www.fws.gov/r3pao/eco\\_serv/endangrd/lists/indiana.html](http://www.fws.gov/r3pao/eco_serv/endangrd/lists/indiana.html))

Indiana Department of Commerce. 1997. Davidson-Peterson Associates, Inc. for Indiana Department of Commerce, Indiana County Economic Impact of Expenditures by Tourists, Calendar Year 1996, April 1997.

IDEM Office of Air Management. 2000. Indiana Air Quality Monitoring Network Evaluation. Indiana Department of Environmental Management.  
([www.state.in.us/idem/oam/amb\\_review/review.html](http://www.state.in.us/idem/oam/amb_review/review.html))

IDEM County Profiles. 1995. Indiana Department of Environmental Management, Indianapolis.  
([www.state.in.us/idem/countypfiles/index.html](http://www.state.in.us/idem/countypfiles/index.html)).

IDEM Indiana 2000 State of the Environment Report.

Indiana Historical Bureau. 2001. Physical Features of Indiana - Weather Statistics.  
([www.statelib.lib.in.us/www/ihb/weather.html](http://www.statelib.lib.in.us/www/ihb/weather.html))

Indiana Historical Bureau<sup>2</sup>. 2001. Introducing Indiana-Past and Present, An Issue of The Indiana Historian, Commerce and Industry ([www.statelib.in.us/www/ihb/comind.html](http://www.statelib.in.us/www/ihb/comind.html)).

DNR 1994. *Water Resource Availability in the Lake Michigan Region, Indiana.* Division of Water, Indiana Department of Natural Resources.

Indiana Port Commission 1999. ([www.portsofindiana.com](http://www.portsofindiana.com))

National Agricultural Statistics Service USDA. May 1999.

National Park Service 2001. Visit Your Parks, Park Guide ( [www.nps.gov/indu/index.htm](http://www.nps.gov/indu/index.htm).)

NMMA. 2000. Boating Registration Statistics. National Marine Manufacturers Association, Chicago.

([www.nmma.org/facts/boatingstats/2000stats/registrations.html](http://www.nmma.org/facts/boatingstats/2000stats/registrations.html)).

NOAA 1990. *50 Years of Population Change Along the Nation's Coasts 1960-2010. A Special Earth Week Report*. National Ocean Service, National Oceanic and Atmospheric Administration. April 1990.

NOAA 1992. *Building Along America's Coasts, 20 Years of Building Permits, 1970-1989*. National Oceanic and Atmospheric Administration. August 1992.

NRDC 1996. Natural Resource Defense Council, *Testing the Waters: Who Knows What You Are Getting Into*. Sarah Chasis and Dare Fuller. June 1996.

TCRI 1999. *Pollution Prevention and Toxic Release Inventory Annual Report*. IDEM, Office of Pollution Prevention and Technical Assistance. ([www.state.in.us/idem/oppta/tri](http://www.state.in.us/idem/oppta/tri)).

U.S. EPA. *The Great Lakes - An Environmental Atlas and Resource Book*. 1995. Government of Canada and U.S. Environmental Protection Agency. Third Edition. ([www.epa.gov/glnpo/atlas/intro.html](http://www.epa.gov/glnpo/atlas/intro.html)).

- B. All agencies referenced in Volume I, Part II of this document and Volume II, Appendices were consulted during initial development of the 2000 public review draft document. DNR consulted each agency again in 2001 in order to incorporate necessary revisions prior to publication.

## Part VII: Comments on DEIS and Response to Comments

### INDEX TO WRITTEN COMMENTS

No.	Commenter	Date Received
1	Mark Reshkin, Professor Emeritus, Indiana University Northwest, and Member of the Little Calumet River Basin Development Commission	Oct. 8, 2001
2	John H. Vail	Oct. 16, 2001
3	Evan Bayh, United States Senate	Oct. 18, 2001
4	P.K. Dilts	Oct. 18, 2001
5	Gerald W. Hodges, Member, Past Chairman Portage Port Authority	Oct. 18, 2001
6	Peter J. Visclosky, Member of Congress, 1 <sup>st</sup> District Indiana	Oct. 19, 2001
7	Keith D. Lakin, Porter County Farm Bureau Inc.	Oct. 26, 2001
8	Peter E. Youngman	Oct. 29, 2001
9	Janet Greenwald	Oct. 30, 2001
10	Tom Anderson, Executive Director, Save the Dunes Council (also received by mail Nov. 7, 2001)	Oct. 31, 2001
11	Phyliss Benn	Oct. 31, 2001
12	Joan Levin	Oct. 31, 2001
13	Tim Armstrong, Lake County Parks and Recreation Department	Nov. 1, 2001
14	Joan Engel	Nov. 1, 2001
15	Mark Woernle, J.F. New & Associates, Inc.	Nov. 1, 2001
16	Bill Theis, Trustee, Pine Township	Nov. 2, 2001
17	Lee Botts	Nov. 3, 2001
18	Mark Reshkin, for Thomas McDermott, Northwest Indiana Forum	Nov. 3, 2001
19	Gregory J. Buck	Nov. 5, 2001
20	Kenneth Fee (also received by e-mail)	Nov. 5, 2001

21	Sharon Fee (also received by e-mail)	Nov. 5, 2001
22	Virgil J. Gassoway, dds.	Nov. 5, 2001
23	David L. Hollenbeck, for Valparaiso Lakes Area Conservancy District (also received by mail)	Nov. 5, 2001
24	Bruce F. Jones (Requested change from original comment received Oct. 4, 2001)	Nov. 5, 2001
25	Christa Jones, Indiana Association of Soil and Water Conservation Districts	Nov. 5, 2001
26	Bowden Quinn, Executive Director, Grand Calumet Task Force	Nov. 5, 2001
27	Phyllis Reeder, Administrator, Lake County Soil and Water Conservation District	Nov. 5, 2001
28	Alan and Donna Resetar (due to time difference between Indianapolis and Northwest Indiana, this comment was sent on Nov. 5, 2001 although it was stamped Nov. 6, 2001)	Nov. 5, 2001
29	John and Elma Thiele	Nov. 5, 2001
30	Ron Trigg, Executive Director, Shirley Heinze Environmental Fund	Nov. 5, 2001
31	Joan Wiseman, Esq. (also received by e-mail)	Nov. 5, 2001
32	Cameron Davis, Executive Director, Lake Michigan Federation (letter postmarked Nov. 5, 2001)	Nov. 7, 2001
33	Herbert P. Read, President, Porter County Chapter, Izaak Walton League of America (letter postmarked Nov. 5, 2001)	Nov. 7, 2001
34	Elizabeth and Terrence McCloskey (letter postmarked Nov. 5, 2001)	Nov. 8, 2001
35	Charlotte J. Read (letter postmarked Nov. 5, 2001)	Nov. 8, 2001
36	Andi Winninger, Watershed Specialist, Hoosier Environmental Council	Nov. 8, 2001
37	John Coulter, Chairman, Board of Supervisors, LaPorte County Soil and Water Conservation District	Nov. 8, 2001
38	Willie R. Taylor, Director, Office of Environmental Policy and Compliance Department of Interior	Nov. 16, 2001
39	Kenneth A. Westlake, Chief, Environmental Planning and Evaluation Branch, Office of Strategic Environmental analysis, U.S. Environmental Protection Agency	Nov. 19, 2001

**INDEX TO ORAL COMMENTS- OCTOBER 1, 2001**

<u>No.</u>	<u>Commenter</u>	<u>Date Received</u>
1	Bill Theis, Pine Township Trustee	Oct. 1, 2001
2	Tim Morgan, Superintendent, LaPorte County Parks Department	Oct. 1, 2001

**INDEX TO ORAL COMMENTS- OCTOBER 3, 2001**

<u>No.</u>	<u>Commenter</u>	<u>Date Received</u>
1	John Henoff, Perch America	Oct. 3, 2001
2	Jay Allen Johnson, Purdue Calumet	Oct. 3, 2001
3	Bob Porch, DNR, Division of Fish and Wildlife	Oct. 3, 2001
4	Sandy O'Brien, Duneland Sierra Club	Oct. 3, 2001
5	Vollie Riskin, League of Women's Voters, Calumet region	Oct. 3, 2001
6	Kimberly Jones, East Chicago City Planner	Oct. 3, 2001

**INDEX TO ORAL COMMENTS- OCTOBER 4, 2001**

<u>No.</u>	<u>Commenter</u>	<u>Date Received</u>
1	Herb Read, President Issak Walton League	Oct. 4, 2001
2	Sharon Fee, STOP Organization	Oct. 4, 2001
3	Unidentified #1	Oct. 4, 2001
4	Dennis Showers	Oct. 4, 2001
5	Mike Goin	Oct. 4, 2001
6	Pam Belts	Oct. 4, 2001
7	George Smulka	Oct. 4, 2001
8	Paul Panther, Town Council Ogden Dunes	Oct. 4, 2001
9	Unidentified #2, President, Porter County League of Women Voters	Oct. 4, 2001

10	Susan Showers, STOP Organization	Oct. 4, 2001
11	Don Ewoldt, Lake Erie Land Company	Oct. 4, 2001
12	Pauline Poprad, Chesterton Tribune	Oct. 4, 2001
13	Unidentified #3	Oct. 4, 2001



## **Introduction**

On October 1, 3, and 4, 2001, the Indiana Department of Natural Resources (DNR) and the National Oceanic and Atmospheric Administration (NOAA) held three joint public hearings to receive comments on Indiana's proposed Lake Michigan Coastal Program (LMCP) document and Draft Environmental Impact Statement published jointly by DNR and NOAA. NOAA participated in the joint hearings, in part, to fulfill the requirements of the National Environmental Policy Act of 1969 and the Coastal Zone Management Act of 1972, as amended (CZMA). DNR participated in the joint hearings to provide an opportunity for the public to comment and make recommendations regarding Indiana's proposed program document. Comments received at those public hearings and written comments submitted during the comment period, which ended November 5, 2001, were considered by both NOAA and DNR. The following is a record of all written and oral comments and responses from both NOAA and DNR. Questions asked at the public hearings were not included in this section; however, meeting transcripts recorded all questions and answers during the hearings.



**Warfield, Patricia**

Indiana Department of Natural Resources

To: dhaworth@hiron.com

Subject: FW: Lale Michigan Coastal Program Draft EIS

Forward  
10/10/01

Page 1 of 1  
Frank O Bannon, Governor  
Larry D. Macklin, Director

-----Original Message-----

**From:** Mark Reshkin [mailto:mreshkin@home.com]

**Sent:** Monday, October 08, 2001 12:51 PM

**To:** coastal@dnr.state.in.us

**Subject:** Lale Michigan Coastal Program Draft EIS

Laurie Rounds, Program Manager  
Attn: Lake Michigan Coastal Program Comments  
Indiana Dept. of Natural Resources  
402 W.Washington Street, Room 204  
Indianapolis, IN 46204

October 8, 2001

Dear Ms. Rounds:

I have reviewed carefully the Draft EIS for the Lake Michigan Coastal Program and offer comments below. My experiences with past attempts to obtain a Coastal Zone Program for Indiana date back to the 1970's. I served as a consultant to DNR and focused most recently on the efforts to determine a suitable boundary. My conclusions during the attempt previous to this current effort are mentioned in the EIS.

The regulatory climate that prevailed in the U. S. Department of Commerce's Coastal Zone Management Program were, at that time, such that I believed that a boundary, essentially U. S. Highway 12, was the most feasible inland boundary in terms of attaining local support. I am most pleased to learn that now no new legislation is needed for acceptance by the U. S. Department of Commerce. With that in mind, I wholeheartedly support the proposed inland boundary being the entire Lake Michigan Drainage basin. This presents an effective management area better ensures the protection the protection of the nation's coastal resources.

I look forward to the initiation of the program and congratulate you for your efforts and the high quality of the EIS.

Sincerely yours,

Mark Reshkin, Professor Emeritus  
Indiana University Northwest, and  
Member of the Little Calumet River  
Basin Development Commission

10/10/2001

An Equal Opportunity Employer

## **RESPONSE TO WRITTEN COMMENTS**

**WRITTEN COMMENT #1:** Mark Reshkin, Professor Emeritus, Indiana University Northwest, and Member of the Little Calumet River Basin Development Commission  
Oct. 8, 2001

### **Response to Comments:**

Thank you for your comment. No written change required.



Indiana Department of Natural Resources

Frank O'Bannon, Governor  
Larry D. Macklin, Director

From: john vail [johnvail2000@hotmail.com]

Sent: Tuesday, October 16, 2001 10:59 PM

To: coastal@dnr.state.in.us

To: Lake Michigan Coastal Zone Comments

From: John H. Vail 401 Vail St. Michigan City, IN 46360

Re: Draft Environmental Impact Statement (P/DEIS)

It is time for the IDNR to address the problem of the silting of the Michigan City harbor in a realistic way. Michigan City taxpayers have been obliged to furnish all the local funds to dredge the channel every ten years or so. As you are aware, the federal government with the U.S. Army Corps of Engineers has been increasingly reluctant to dredge any harbor which is used primarily for recreational boating. Such dredging has only been accomplished by our wheedling Congress for special ad hoc appropriations each decade to solve each (predictable) crisis.

The street dirt carried into the channel by Michigan City storm sewers is but a small percentage of the total material dredged. Most of the stuff comes from the farm fields and runoff in the upper reaches of the Trail Creek Watershed. The County Drainage Board has the power and authority to assess costs of clearing rural ditches to the adjoining property owners who clog it, whether they like it or not. This same law must be broadened and interpreted as applying to Trail Creek as a "ditch" as well.

To bolster your argument for effecting this change in attitude, there is nothing in that law that prevents Trail Creek, legally and technically, from being treated as a ditch.

The gut of the problem--this from Powell Travis, longtime chairman of the LaPorte County Drainage Board--is a longstanding "gentleman's agreement" whereby the city agreed to maintain all ditches within its political boundaries. This agreement was made when there was ample commercial boat traffic to justify the Corps dredging the harbor more or less automatically as needed. That situation, of course, no longer attends.

The reason this problem (of recurrent crisis dredging) remains unresolved is, of course, political. Our county council people and commissioners would incur the wrath of all their constituents in the rural part of the TCW if they enacted a law creating a Trail Creek Watershed Conservancy District. This would be a non-reverting cumulative DREDGING fund. The apathy and submissiveness of the Michigan City electorate, who continue to tax themselves with their so-called Channel Maintenance Fund contribute to the problem as well.

It behooves the DNR and IDEM to spell it out to, and for, us. It is you who must take the lead in resolving this perpetual problem.

Sincerely yours,

John H. Vail johnvail2000@hotmail.com Ph. (219) 872-7036

I WOULD APPRECIATE ACKNOWLEDGEMENT OF RECEIPT OF THIS LETTER. THANK YOU

10/17/2001

An Equal Opportunity Employer

**WRITTEN COMMENT#2:** John H. Vail  
Oct. 16, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

There has been considerable attention paid to sedimentation problems in the Trail Creek watershed. In order to reduce sedimentation of the channel and thereby reduce the need to dredge, officials of Michigan City, Indiana, requested and received funding in 1991 from the EPA and IDEM, Section 319 program, to lessen non-point source pollution in the Trail Creek Watershed. In addition, the IDEM approved a \$20,000 grant from Section 205 (j)(3) of the Clean Water Act for development of a total watershed development plan in the Trail Creek Watershed. As part of this effort, a Trail Creek Natural Resource Plan was completed in 1993 and provided to the LaPorte SWCD for use in their efforts within the Trail Creek watershed. The objectives of the plan were to detail current conditions on agricultural lands with respect to soil erosion and estimated sedimentation, to identify areas of agricultural lands where erosion rates exceed tolerable limits ("T" Value) and provide alternatives to reduce both erosion and sedimentation.

According to the Trail Creek Natural Resource Plan, possible sources of deposition within the channel area are identified as sediments from Trail Creek, sloughage of channel sides, and littoral drift from the harbor. The Trail Creek Natural Resource Plan also discussed sources of sedimentation: "A review of fourteen sample sites spread throughout the watershed demonstrated that agricultural land erosion and resulting off-site sedimentation was contributing approximately 2,400 tons annually to the total of 6,200 tons documented at the harbor channel."

Sampling efforts have also shown problems concerning contaminated materials, which have required confined disposal sites during past dredging efforts. From 1970 to 1993, the federal harbor channel at Michigan City has required periodic dredging in order to maintain a navigable channel. Three times during this period, dredged materials have required a confined disposal site due to contamination.

The complicated issues surrounding the maintenance of the Federal Harbor Channel at Michigan City will require a cooperative approach throughout the watershed among local, state, and federal agencies as well as private citizens and non-profit organizations. The Indiana LMCP will support activities that improve government coordination and streamlining for coastal issues. The LMCP will also work with federal agencies on activities that require federal consistency review (See Chapter 11: Federal Consistency). In addition, the DNR and IDEM manage programs and initiatives to reduce erosion and runoff that ultimately would help reduce the need and frequency for dredging. The LMCP will also work towards supporting the implementation of these programs in the coastal region.

EVAN BAYH  
INDIANA

463 RUSSELL SENATE OFFICE BUILDING  
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(202) 224-5623

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10 WEST MARKET STREET  
INDIANAPOLIS, IN 46204  
(317) 554-0750

# United States Senate

WASHINGTON, DC 20510-1404

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BANKING, HOUSING, AND URBAN AFFAIRS  
ENERGY AND NATURAL RESOURCES  
SPECIAL COMMITTEE ON AGING  
SELECT COMMITTEE ON INTELLIGENCE

October 17, 2001

Ms. Laurie Rounds  
Program Manager  
Lake Michigan Coastal Program  
Indiana Department of Natural Resources  
402 West Washington Street  
Room W264  
Indianapolis, IN 46204

Dear Ms. Rounds:

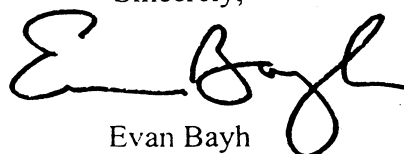
I am writing in strong support of the Lake Michigan Coastal Program of the State of Indiana. This program will lead to the protection, restoration, and revitalization of the fragile environment along the Indiana shoreline of Lake Michigan. It will focus on achieving a sustainable way of life between the environment and those living in the area.

As you know, the Lake Michigan Coastal Program serves the vital role in organizing and streamlining the processes that will lead to the sustainability of the environment along the shores of Lake Michigan. The program will coordinate local communities and businesses, along with state and federal stakeholders, to identify and implement the necessary coastal projects. The goals of the program, which include pollution prevention, improved coordination among the agencies involved, and preservation and restoration of the natural resources in the area, will all provide for a healthier way of life for the citizens in these communities.

I believe that participation by the State of Indiana in this program will improve the quality of life for Indiana Hoosiers in the Lake Michigan area. It is important that Indiana continues to protect our natural heritage and preserve the natural areas that remain. They improve our quality of life, protect rare and endangered species, and preserve natural links to our past.

Again, I share my support in the State of Indiana's implementation of the Lake Michigan Coastal Program. I congratulate those that have created and advocated the program. I believe that it will not only benefit the environment of the Indiana shoreline area, but also the individuals, families, and businesses of all of northwest Indiana.

Sincerely,



Evan Bayh

**WRITTEN COMMENT#3:** Evan Bayh, United States Senate  
Oct. 18, 2001

**Response to Comments:**

Thank you for your comment. No written change required.

# Indiana Lake Michigan Coastal Program and Draft EIS Comment Form

We've been through hearings on this same subject several years ago. It was voted down. We have problems with jurisdictional areas + overlaps with the oversight in place now. We do not need another layer of oversight. Adding more regulations with the promise of money is shallow.

Yes - we must work together for clean water, less pollution, and recreation areas - we have more than enough government entities doing this now.

Having been to public hearings - there is very little indication that those pushing their agenda ever change from their original aim. They listen & discard what might stop their projects.

## There are several ways to provide comments on the Lake Michigan Coastal Program Draft EIS.

Hwy 6 used to be the south boundary for control, I see it is now way past Crown Point.

- Attend public meetings and give your comments directly to IDNR officials
- Return this comment form to the registration desk at the meeting or mail to the address below
- Call toll free 1-866-500-7010
- Fax your comments to: 1-800-917-7490
- Comment via e-mail: [coastal@dnr.state.in.us](mailto:coastal@dnr.state.in.us)

Name (optional): P. K. DILTS

Organization: \_\_\_\_\_

Home or Organization Address (circle one): \_\_\_\_\_

City: GARY State: IN ZIP Code: 46403

Telephone (optional): \_\_\_\_\_ E-mail (optional): \_\_\_\_\_

## Comments should be postmarked by Nov. 5, 2001 and mailed to:

Laurie Rounds, Program Manager  
Attn: Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 W. Washington Street, Room W264  
Indianapolis, Indiana 46204  
Toll free: 1-877-928-3755  
[coastal@dnr.state.in.us](mailto:coastal@dnr.state.in.us)





**WRITTEN COMMENT#4: P.K. Dilts**

Oct. 18, 2001

**Response to Comments:**

1. Comment regarding issue of bureaucracy and regulations.

Thank you for your comment. No written change required.

The Indiana LMCP is based on existing state laws. No additional regulations are proposed to participate in the federal Coastal Zone Management Program. In addition, the LMCP does not increase bureaucracy. The program organization, detailed in Chapter 4: Indiana Lake Michigan Coastal Program Implementation, is based on a network approach of existing state agencies and partnerships with local and federal entities. Approval of the Indiana LMCP will not alter the state regulatory or administrative structure.

2. Comment regarding boundary.

Thank you for your comment. No written change required.

The boundary for the LMCP is described in detail in Chapter 3, The Coastal Program Area. The Coastal Program Area defines the lands and waters eligible for financial and technical assistance under the LMCP. The draft boundary described in the P/DEIS was based on comments on the Scoping Document June 2001, past program development plans, comments from public meetings, the Northwest Indiana Public Workgroups, and scientific inventories and studies. The draft inland boundary described in the P/DEIS was based on Indiana's Lake Michigan watershed, which encompasses the area that drains into the state's portion of Lake Michigan through its ditches, streams, wetlands, groundwater supplies, and lakes. Because the Indiana LMCP is based on existing state laws, the inland boundary does not represent an area of "control" but rather those communities that are eligible to participate in the program.

Indiana Lake Michigan Coastal Program Draft EIS  
Comment

The hearing of October 4 at Portage was a disappointment in that much detail was not available. The displays of selfishness and bad manners by some of those present were reminders of the previous meetings of some years ago, and any hopes of a revised approach and new proposals did not last long. The upshot seems to be that this effort is the same as the one which was rejected so soundly earlier, except that the required local match is higher.

Additional comments, which seem indicated, follow:

1. This program cannot be justified without the unhappy assumption that virtually all Government entities and the people therein are failing to perform the responsibilities with which they are charged. Still, the summary says, this program will only "enhance" and "promote" and "update". It won't DO anything except "develop a partnership". It is a proposal with no specific goals nor objectives nor any measurement of progress-or lack thereof-included in it. As such, it will do worse than just become another cubby-hole at the DNR; it will consume the time and resources that more effective efforts need so badly.

2. There is a credibility problem with the State and DNR relative to improvement and management. Raw sewage continues to flow into Lake Michigan every time it rains hard. The city of Valparaiso, for one, continues to grow and expand with raw sewage discharges as a part of their future plan. The State responded by relaxing the permissible levels, in essence legalizing the mess. With State and DNR approved raw sewage discharges occurring regularly, can anyone seriously ask why we have beach closings?

3. Reference was made to the competitive process for the proposed funds, with someone from the DNR guiding the decision. It is intuitive that since opposition by so-called environmental groups is fatal to proposals that these groups may not favor, these groups may be expected to have virtual control of the priorities, and use of funds.

Thank you for this opportunity to comment.

Gerald W. Hodges  
Member, past Chairman  
Portage Port Authority

**WRITTEN COMMENT#5:** Gerald W. Hodges, Member, Past Chairman Portage Port Authority  
Oct. 18, 2001

**Response to Comments:**

1. Comment regarding previous program development efforts.

Thank you for your comment. No written change required.

The history of Indiana's program development efforts is detailed in Chapter 6: Program Development and Coordination. From 1993 to 1995 several public meetings were held to gather public comments on Indiana's participation in the federal Coastal Zone Management Program. In the fall of 1994 and spring of 1995, support and opposition were voiced to participation in the federal Coastal Zone Management Program. In response, the DNR began an extensive public participation process to gain a better understanding of the various perspectives on the issues challenging the Lake Michigan coastal area in Indiana. This process resulted in the formation of the 1995 Northwest Indiana Public Workgroups and Blue Ribbon Advisory Panel. During this time of public outreach, the DNR did not develop, nor submit for public comment, a program document proposing a coastal program for Indiana. Following the extensive public workgroup process, the DNR incorporated local priorities identified by the workgroups into the *Indiana Lake Michigan Coastal Program Scoping Document -June 2001*. This was the first document proposing a coastal program developed and released for consideration by the public. The proposed Indiana LMCP detailed in the Scoping Document represents the culmination of extensive public outreach and participation from 1995 to its release.

2. Comment regarding local match.

Thank you for your comment. No written change required.

As a state participating in the federal Coastal Zone Management Program, Indiana would be eligible to receive funds estimated at \$900,000. The funds would be awarded to the DNR, which is designated as the lead agency for administration of the LMCP. Following a three-year period, funds received for program administration will be required to be matched on a 1:1 ratio by the State. During the initial three fiscal years the match will be based on the following schedule: year one match is 4:1; year two match is 2.3:1 and year three match is 1.5:1. The State of Indiana may choose the total amount of funds requested annually for the LMCP up to the estimated \$900,000 limit. The State will accomplish the match for funds requested through the use of existing personnel salaries and other State resources currently directed toward managing resources in the coastal region.

In addition, the LMCP will allocate a percentage of funds received from NOAA to an Indiana Coastal Grants Program. Recipients of grants from the Coastal Grants Program will be required to provide a match. This match can consist of cash or 'in-kind' services. Cash includes salaries, project expenses, and purchase of equipment, supplies and other reasonable items associated with a project to be conducted with funds received from the LMCP. An 'in-kind' match includes the value for the use of equipment, supplies, land or other commodity already owned by the applicant or the use of items or staff donated by a third party. Receipt of funds from the Coastal Grants Program is voluntary.

A detailed description of funds available to Indiana for the LMCP is in Chapter 7: Lake Michigan Coastal Program Funding and Grants Program

3. Comments regarding lack of goals and objectives of the Lake Michigan Coastal Program.

Thank you for your comment. No written change required.

The purpose and goals of the LMCP are identified in Chapter 1: Indiana Lake Michigan Coastal Program Overview.

The purpose of the LMCP is to enhance the state's role in planning for and managing natural and cultural resources in the coastal region and to support partnerships between federal, state, and local government agencies and organizations. The LMCP relies on existing state laws and programs as the basis for achieving its purpose.

The LMCP will support activities that achieve the following goals in the coastal region:

- Protect and restore significant natural resources;
- Prevent the loss of life and property in coastal hazard areas;
- Improve public access for recreational purposes;
- Protect and restore important historic and cultural resources;
- Improve government coordination and policy and decision making;
- Revitalize urban waterfronts and ports; and
- Provide for priority water dependent uses.

Objectives of the LMCP are discussed in Chapter 7: Lake Michigan Coastal Program Funding and Grants Program. Funds received to administer the LMCP and to establish the Coastal Grants Program will be used to further the objectives identified in that chapter.

4. Comment regarding raw sewage discharges.

Thank you for your comment. No written change required.

Regulatory authority for combined sewer overflows rests primarily with the IDEM, at the state level, and the EPA, at the federal level. The DNR does not regulate combined sewer overflows.

The IDEM, Office of Water, drafted the following response:

In April 1994, U.S. EPA released the Combined Sewer Overflow (CSO) Control Policy. The State of Indiana responded, as the permitting authority, by publishing the Indiana CSO Strategy in the Indiana Register in May 1996. Both the EPA Policy and Indiana Strategy provide a clear and comprehensive program for the abatement of impacts to waters of the state from discharges from CSOs.

There are 105 CSO communities in Indiana, including the City of Valparaiso, that have National Pollutant Discharge Elimination System (NPDES) permits requiring the elimination of CSO impacts to the point that water quality standards are attained and maintained. The highest priority in scheduling the CSO abatement projects must be given to what are called "sensitive areas." Sensitive Areas are defined as: 1) habitat for threatened or endangered species, 2) recreational beaches, 3) down stream drinking water sources, and 4) outstanding state or federal resource waters. All 105 CSO communities must develop and implement Long Term Control Plans (LTCP) that detail how water quality standards shall be attained. The LTCP must also take into account future growth of a community so future generations will not have to deal with this problem again. The CSO abatement projects specified in the LTCP will become a part of an enforceable permit with fines for noncompliance.

The CSO problem is one that has been around since indoor plumbing was invented and wastewater treatment plants first constructed. The problem cannot be cured overnight. It may take upwards of 15 years to totally eliminate all impacts from CSO discharges. The important thing to remember is the fact that a strong and enforceable program is now in place and substantial progress is being made.

5. Comment regarding grant funds and priorities.

Thank you for your comment. No written change required.

The proposed process of identifying priorities annually through public meetings in northwest Indiana will allow local communities to comment on what they believe are the most important issues that can be addressed by the LMCP. A detailed discussion of the Coastal Grants Program is in Chapter 7: Lake Michigan Coastal Program Funding and Grants Program.

The Coastal Grants Program will be administered by the LMCP. Administration will include the development of grant proposal guidance, an application packet, and a project evaluation form. Grant proposal guidance will be developed annually to assist applicants in identifying projects that meet the objectives of the Coastal Grants Program. To accomplish this, the LMCP will host an annual public planning meeting to collect input on the next grant cycle's priorities and to identify emerging issues. The planning meeting will be open to the public, including the agencies and organizations eligible to receive grants. The DNR will form a stakeholders advisory group to provide input for the Coastal Grants Program. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region. The Director of the DNR will conduct final selection of grant applications for the state and forward selected application for final review by the Office of Ocean and Coastal Resource Management at NOAA.

PETER J. VISCLOSKY  
1ST DISTRICT, INDIANA

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ENERGY AND WATER DEVELOPMENT  
TREASURY, POSTAL SERVICE  
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NORTHEAST-MIDWEST  
CONGRESSIONAL COALITION  
MIDWEST VICE-CHAIR

**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-1401**

October 11, 2001

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<http://www.house.gov/visclosky/>

Ms. Laurie Rounds  
Program Manager  
Lake Michigan Coastal Program  
Indiana Department of Natural Resources  
402 West Washington Street  
Room W264  
Indianapolis, Indiana 46204

Dear Ms. Rounds:

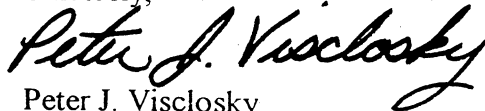
I write in strong support for the State of Indiana's Lake Michigan Coastal Program (LMCP). I applaud the efforts extended by the State of Indiana to initiate the LMCP and thus take advantage of the opportunities of participating in the federal Coastal Zone Management Program (CZMP).

As you know, the Indiana Department of Natural Resources (DNR) will be the lead agency to implement the LMCP, which will initiate a variety activities such as: protect and restore significant natural resources; prevent the loss of life and property in coastal hazard areas; improve public access for recreational purposes; protect and restore important historic and cultural resources; improve government coordination and policy an decision making; prevent, reduce, or remediate nonpoint source pollution that affects coastal waters; revitalize urban waterfronts and ports; and provide for priority water dependent uses. Once the LMCP receives final approval for inclusion into the CZMP, the State of Indiana will be better suited to initiate the plan of action required to ensure the above mentioned goals are met.

I am happy to learn that responses to the four main questions that the draft Environmental Impact Study (DEIS) must answer have received an affirmative preliminary determination by the Office of Ocean and Coastal Resource Management. I am sure this determination came after much careful consideration and deliberation.

I congratulate the State of Indiana for producing such a comprehensive document and extending their resources to benefit the Indiana Lake Michigan Shoreline. If you have any questions please contact me directly or Mark Lopez, Manager of Projects and Grants in my Gary District Office at (219) 884-1177.

Sincerely,



Peter J. Visclosky  
Member of Congress

PJV:ml

**WRITTEN COMMENT #6:** Peter J. Visclosky, Member of Congress, 1<sup>st</sup> District Indiana  
Oct. 19, 2001

**Response to Comments:**

Thank you for your comment. No written change required.

October 19, 2001

Laurie Rounds Program Manager  
Att: Lake Michigan Costal Program comments  
Indiana Department of natural Resources  
402 W. Washington Street, Room W264  
Indianapolis, Indiana 46204

Dear Madam:

I am chairperson of the Porter County Farm Bureau Inc. National Resources Committee. I brought the information given to me at the 10/1/01 L.M.C.P. meeting in Michigan City, Indiana to our full board meeting 10/8/01. The Porter Co. Farm Bureau Inc, accepts the proposal of L.M.C.P. with the concept that it will not add additional strain of Federal bureaucracy to the already strained farm industry, and with the hope that it may eliminate some of the overlapping Federal and State regulations.

The majority of the land included in the L.M.C.P. will be open farmland. We of the Porter Co. Farm Bureau Inc. want a farmer, land owner, to be on the Regional Advisory Board if the L.M.C.P. is adopted.

We suggest that the D.N.R. L.M.C.P. send letters of notice that they are seeking a farmer, land owner, to serve on the Regional Adversary Board of the L.M.C.P. to the County U.S.D.A. Farm Service offices, Porter County being at 3001 Lenard Drive, Suite 105 Valparaiso, Indiana 46383-2773 and to the following Porter County Township Trustees listed on another page and the office of the Porter County Commissioners at 155 Indiana Ave, Room 205 Valparaiso, Indiana 46383, that you are seeking a farmer, landowner, to serve on the L.M.C.P. Regional Advisory Board. Then a person from that list of candidates wishing to serve can be picked for the advisory board. We feel this is a fair and democratic way to choose a candidate.

Respectively,



Keith D, Lakin  
1216 North 345 East  
Chesterton, Indiana  
Phone 219-926-3651  
e-mail merikeith@cs.com



List of Porter County Township Trustees

Center Township	Charles Turnover 100 E. Lincolnway Valparasio, Indiana 46383
Pine Township	William Theis 328-E 1300 N Chesterton, Indiana 46304
Union Township	Tammy Kueck 330 W. U.S. Highway 30 Valparaiso, Indiana 46383
Portage Township	Dwayne Gilbert 3484 Airport Road Portage, Indiana 46368
Liberty Township	Margaret Ruge 892 N. 100 W. Valparaiso, Indiana 46383
Westchester Township	Susanne Phittrick 100 W. Indiana Ave Chesterton, Indiana 46304
Washington Township	Lynn Ross 436 North 400 East Valparaiso, Indiana 46383
Jackson Township	Jan Meyers 318 E. Co. Rd 1050 W. Valparaiso, Indiana 46383

**WRITTEN COMMENT #7:** Keith D. Lakin, Porter County Farm Bureau Inc.  
Oct. 26, 2001

**Response to Comments:**

1. Comment regarding formation of the Coastal Program stakeholders advisory group.

Thank you for your comment. No written change required.

The DNR will form a stakeholders advisory group to provide input on the Coastal Grants Program. The membership of the advisory group will be representative geographically as well as representative of interests in the Coastal Program Area. The DNR recognizes the importance of agriculture as a stakeholder in the coastal region. Your suggestion for nomination of a representative for agriculture is appreciated and will be considered. Although the specific process for nominations and selection has not been completed, the process will incorporate the input of groups representing stakeholders.

## **Rounds, Laurie**

---

**From:** Warfield, Patricia  
**Sent:** Tuesday, October 30, 2001 6:32 AM  
**To:** Rounds, Laurie  
**Subject:** FW: Coastal Program Document

-----Original Message-----

From: Peter E. Youngman [mailto:youngmanpe@juno.com]  
Sent: Monday, October 29, 2001 6:40 PM  
To: coastal@dnr.state.in.us  
Subject: Coastal Program Document

I look forward to the implementation of the LMCP.

Although I personally do not expect the Coastal Plan grants to be used for historical projects, particularly not inland ones, the Ivanhoe wreck site, as mentioned in Comment 49 on page 456, is a good example of the sort of location which would benefit from a regional initiative, as no local historical society is likely to step in to preserve or interpret that site on its own, due to the accidents of political boundaries and historical society localization.

Peter Youngman  
10 Cedar Court  
Ogden Dunes, Ind. 46368-8709  
youngmanpe@juno.com

---

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**WRITTEN COMMENT #8:** Peter E. Youngman  
Oct. 29, 2001

**Response to Comments:**

1. Comment regarding use of grant funds for historic projects.

Thank you for your comment. No written change required.

One goal of the LMCP is to protect and restore important historic and cultural resources in the coastal region. This goal is interrelated with the other goals of the LMCP. Therefore, the LMCP will consider the ecological, conservation, recreation, and economic values as well as the historic and cultural values of coastal resources. The criteria outlined in Chapter 8 under the Coastal Areas of Significance category, "Areas of historical significance, cultural value, or substantial recreational value or opportunity" will be used for consideration in the implementation of the Coastal Grants Program. As pointed out in your comment, increased attention through the LMCP would especially benefit those resources that are not receiving active support or management from a specific agency or local group.

## **Rounds, Laurie**

---

**From:** Janet Greenwald [janetgreenwald1@home.com]  
**Sent:** Tuesday, October 30, 2001 12:46 PM  
**To:** coastal@dnr.state.in.us  
**Subject:** Adopt Coastal Zone Management!

To Whom it May Concern:

Please take whatever steps are necessary to have Indiana adopt Coast Zone Management!

It is a concept and a program which is long overdue for Indiana.

Our Lake Michigan shoreline and waters are the greatest asset in Northwestern Indiana. And through these waters, we are inextricably linked with the other Lake Michigan Basin states. Indiana should do everything in its power to co-operate, influence, and take advantage of programs instituted by the Federal Government and the other states.

The many beach closings due to high e. coli in the summer of 2001 are reasons ALONE for increased governmental co-operation and participation.

In my neighborhood -- the angle where the Indiana/Michigan state line meets Lake Michigan -- quality of the beach has deteriorated due to relocating of heavy, stony, "beach nourishment" that was conducted in New Buffalo and the community of Forest Beach.

I fume when I see the signs, STOP Stop Taking Our Property. I live a few blocks from Lake Michigan and I feel that Indiana's participation in CZM would be a PROTECTION of my property.

Yours truly,

Janet Greenwald  
110 Sunset Trail  
Michiana Shores, IN 46360

janetgreenwald1@home.com

**WRITTEN COMMENT #9:** Janet Greenwald  
Oct. 30, 2001

**Response to Comments:**

Thank you for your comment. No written change required.



444 Barker Road, Michigan City, IN 46360 • 219-879-3937 • Fax 219-872-4875 • [www.savedunes.org](http://www.savedunes.org)

October 31, 2001

Ms. Laurie Rounds  
Lake Michigan Coastal Program  
Indiana Department of Natural Resources  
402 West Washington St.  
Room W264  
Indianapolis, Indiana 46204

Dear Ms. Rounds:

Save the Dunes Council writes in strong support of Indiana's Lake Michigan Coastal Program (LMCP) and submits the following comments on the draft Environmental Impact Statement. We have participated in numerous planning efforts over many years and have urged Indiana to develop a program to take advantage of the federal Coastal Zone Management Program (CZM). We have participated in many workgroup meetings, served on the DNR's "Blue Ribbon Panel", spent over a year working on the "Permit Streamlining Workgroup" which began to implement suggestions about improving permitting in the coastal area.

Indiana's coastal area contains some of the most rare and important resources in the nation. We deserve more attention to these resources, both natural & cultural resources, to benefit current and future generations by protecting and enhancing these important resources.

We support the coordinated approach to manage Indiana's portion of Lake Michigan. The issues identified are all important to Indiana and Northwest Indiana. Erosion continues to be a concern and sand nourishment will be needed in the future. Water quality, especially for beaches, is a special problem because of E. coli contamination. These two issues illustrate the need for coordination and cooperation.

Natural areas protection is vital as we are quickly losing open space and wetlands at an alarming rate. There are unique and important natural resources which are threatened. Recreational opportunities exist and can be enhanced. In 1990 the national Sportfishing Institute estimated that economic impact of sportfishing for Indiana's portion of Lake Michigan was \$63 million per year. This is a significant sum that proves the economic importance of recreation and tourism in our coastal area.

Economic development is also an important element of any CZM program. Administered by the Department of Commerce, coastal zone management emphasizes a wholistic approach to protection, enhancement and economic develop based on sustainable principles. An Indiana CZM program would compliment other efforts to promote sustainable economic activities.

Finally, cultural and historic resources would gain from this program by identifying funding and other opportunities to preserve and enhance those resources. For example, the Michigan City Lighthouse, Naval Armory, lakefront WPA projects, and the like could benefit from the program.

#### Items we stress

Public access to the Lake Michigan shoreline can be enhanced. There are areas that are public but are not posted. Some areas posted "private" are public. We urge you to identify all public access of the Lake Michigan shoreline.

Cooperation between agencies and the public can be enhanced. There are many projects and programs that can be enhanced with the cooperation and expertise that already exists. The Indiana CZM can help unify these efforts.

Increased funding opportunities exist. In addition to the § 306 money, estimated at \$900,000, other money through §309 is available. We support the objectives identified, especially to protect and enhance coastal wetlands, and to enhance public access. Should other federal legislation pass, even more money may be available if we have a CZM program.

We are concerned about the management structure of the program and how



an oversight committee would work. We urge full public participation in that effort. How proposed projects are approved and funded is also a concern. We want to see a balance between natural resource protection and economic enhancement, and urge you to explain that process to the public. In addition, how decisions are made will determine the public support for the future of this program. We want as open a process as possible.

In conclusion, Save the Dunes Council supports Indiana's Coastal Program and offer our help in making sure Indiana's CZM program is a success.

Sincerely,

A handwritten signature in cursive script, reading "Thomas R. Anderson". The signature is written in dark ink and is positioned above the printed name and title.

Thomas R. Anderson  
Executive Director

**WRITTEN COMMENT # 10:** Tom Anderson, Executive Director, Save the Dunes Council  
Oct. 31, 2001

**Response to Comments:**

1. Comment regarding management structure of the program and public participation.

Thank you for your comment. No written change required.

Public participation is an important component in the LMCP and is incorporated into several aspects of the program's implementation. The management structure of the LMCP is based on a network approach with the DNR acting as the lead agency. The DNR, through the LMCP will administer the Coastal Grants Program; complete consistency reviews; and seek opportunities to develop partnerships among federal, state, and local programs.

Public participation is a key aspect of the Coastal Grants Program. The LMCP will hold annual public meetings to determine priorities for each grant funding cycle. In addition, a stakeholders advisory group consisting of representatives from northwest Indiana will be formed to provide input on the Coastal Grants Program. Public participation will also be encouraged in the process of consistency reviews. The federal consistency process conducted by the LMCP will incorporate public notice of consistency determination reviews as described in Chapter 11: Federal Consistency. The LMCP will also continue to produce a program newsletter and maintain a website that informs the public of projects and partnerships developed through the LMCP.

2. Comment regarding Coastal Grants Program and project approval process.

Thank you for your comment. No written change required.

Chapter 7: Lake Michigan Coastal Program Funding and Grants Program provides a detailed description of the organization of the Coastal Grants Program. Specific steps for the formation of the stakeholders advisory group have not been developed at this time. The DNR will develop a detailed description of how the members of the stakeholders advisory group will be selected and public notification of Coastal Grants Program decisions. Developing a grant review and approval process with local participation as an integral component is recognized as an important step in the implementation of the LMCP.

The Coastal Grants Program has been organized to encourage a fair distribution across project types to help achieve a balance between natural resource protection and economic enhancement. The allocation of coastal grants is organized by three categories: Coastal Natural Resources Protection and Restoration, Coastal Community Enhancement and Sustainability, and Emerging Issues. Projects will be grouped according to its objectives under one these three categories.

**Rounds, Laurie**

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**From:** phyliss benn [pabenn@netnitco.net]  
**Sent:** Wednesday, October 31, 2001 5:24 PM  
**To:** coastal@dnr.state.in.us  
**Subject:** Comments on Lake Michigan Coastal Program

As a resident of LaPorte County, I write in support of Indiana's participation in the Lake Michigan Coastal Program. The benefits provided by federal funding and local partnerships are vital to protection and enhancement of our rare and endangered natural resources, as well as to the boost it will provide the precarious economy of this region. Based on existing laws and regulations, the plan poses no threat of further control, while improving the quality of life in our area.

I urge its adoption.

Sincerely, Phyliss A. Benn, 123 Regency Parkway, LaPorte, IN 46350

**WRITTEN COMMENT #11: Phyliss Benn**  
Oct. 31, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

**Rounds, Laurie**

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**From:** Joan D. Levin [jdlevin@interaccess.com]  
**Sent:** Wednesday, October 31, 2001 3:42 PM  
**To:** coastal@dnr.state.in.us  
**Subject:** Support Indiana's Coastal Program!

Please support Indiana's Lake Michigan Coastal Program. This magnificent resource deserves all the protection of the laws and the coastal program is a well coordinated effort to assure the well-being of our lakefront.

With best wishes,

Joan Levin  
1844 Lake Shore Drive  
Michigan City, Indiana 46360

**WRITTEN COMMENT #12:** Joan Levin  
Oct. 31, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

# Indiana Lake Michigan Coastal Program and Draft EIS Comment Form

After reviewing the LMCP Draft EIS, I recommend it be approved. This program is a tremendous opportunity to improve the watershed along the southern rim of Lake Michigan. Many challenges face this watershed's health. This program will provide a tool that local government and non-profit groups can use to help protect headwaters, streams, and coastline in this region.

As a Landscape Architect who specializes in Park Planning at Lake County Parks & Recreation Department, our organization would benefit directly from the grants offered by LMCP. Eight of our eleven parks fall within the watershed boundary.

I give this new program my full support and hope it will be implemented. Please contact me if I can be of further assistance in anyway.

## There are several ways to provide comments on the Lake Michigan Coastal Program Draft EIS.

- Attend public meetings and give your comments directly to IDNR officials
- Return this comment form to the registration desk at the meeting or mail to the address below
- Call toll free 1-866-500-7010
- Fax your comments to: 1-800-917-7490
- Comment via e-mail: [coastal@dnr.state.in.us](mailto:coastal@dnr.state.in.us)

Name (optional): Tim Armstrong

Organization: Lake County Parks and Recreation Department

Home or Organization Address (circle one): 8411 E. Lincoln Highway

City: Crown Point State: IN ZIP Code: 46307

Telephone (optional): (219) 945-0543 E-mail (optional): tarmstrong@jorsm.com

## Comments should be postmarked by Nov. 5, 2001 and mailed to:

Laurie Rounds, Program Manager  
Attn: Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 W. Washington Street, Room W264  
Indianapolis, Indiana 46204  
Toll free: 1-877-928-3755  
[coastal@dnr.state.in.us](mailto:coastal@dnr.state.in.us)



**WRITTEN COMMENT #13:** Tim Armstrong, Lake County Parks and Recreation Department  
Nov. 1, 2001

**Response to Comments:**

Thank you for your comments. No written change required.



**Rounds, Laurie**

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**From:** Joan Engel [jengel@home.com]

**Sent:** Thursday, November 01, 2001 9:46 PM

**To:** coastal@dnr.state.in.us

**Subject:** Support for Lake Michigan Coastal Program

I wish to add my name to the list of those who wish to see Indiana part of the Lake Michigan Coastal Program. Nothing is more important to our state than clean air and water. Sincerely, Joan Engel

11/6/2001

**WRITTEN COMMENT #14:** Joan Engel  
Nov. 1, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

## **Rounds, Laurie**

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**From:** Marc Woernle [jfnewmw@mindspring.com]  
**ent:** Thursday, November 01, 2001 10:47 AM  
**o:** 'coastal@dnr.state.in.us'  
**Subject:** Lake Michigan Coastal Program Comments

Laurie Rounds, Program Manager  
Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street, Room W264  
Indianapolis, Indiana 46204

I write in strong support of Indiana's Lake Michigan Coastal Program. The coastal resources of Indiana's Lake Michigan are among the most rare and threatened in the entire nation. I support Indiana's participation in the federal Coastal Zone Management Program and point out that Indiana is one of only two eligible states not taking advantage of CZM. From what i have heard,  
The program would add more than \$900,000 per year to manage our coastal resources. In addition, more money may be available through other sources for CZM states.

Based on what i have heard, the current proposal is based on existing laws and regulation and there is no need for additional laws and regulations. The goal of developing partnerships with local agencies and organizations fit well with the increasing number of partnerships in Northwest Indiana working in cooperation to protect and enhance our coastal resources and working to improve our quality of life.

Based on information i have obtained, the program should also enhance the protection of important historic and cultural resources in the coastal area. In addition to protection, CZM should promote appropriate economic development, such as tourism, in the coastal area. This is vital to the future of Northwest Indiana as our economy diversifies.

I await full approval of the program and look forward to implementation of Indiana's Lake Michigan Coastal Program.

Sincerely,

- Marc W. Woernle  
J.F. New & Associates, Inc.  
3955 Eagle Creek Parkway, Suite A  
Indianapolis, IN 46254  
tel: 317-388-1982  
fax: 317-388-1986  
e-mail: jfnewmw@mindspring.com

**WRITTEN COMMENT #15:** Mark Woernle, J.F. New & Associates, Inc.  
Nov. 1, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

# COUNTY - PORTER

**BILL THEIS (TICE)**  
PINE TOWNSHIP TRUSTEE/ASSESSOR



P.O. Box 599  
CHESTERTON, INDIANA 46304

PHONE: (219) 921-0133  
FAX: (219) 926-4651

November 1, 2001

Laurie Rounds, Program Manager  
Attn: Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 W. Washington Street, Room W264  
Indianapolis, IN 46204

John R. King  
Coastal Programs Division  
SSMC-4, Room 11110  
1305 East-West Highway  
Silver Spring, MD 20910

Dear Manager Rounds and Director King,

Please include this letter along with the enclosed resolutions, news articles, and letters of opposition as public comment with reference to the proposed Indiana Lake Michigan Coastal Program Document & Draft Environmental Impact Statement.

The enclosed opposition to Indiana's participation in the Federal Coastal Zone Management Program was first presented as public comment opposing the Indiana Coastal Zone Management Proposal during the scoping process in 1995. It was presented again as public comment opposing the Indiana Lake Michigan Coastal Program during the scoping process in June of 2001. This public comment in opposition was ignored in both cases. The name of the proposed program has changed over the years, but the end result has not. That result being Indiana's participation in the Federal Coastal Zone Management Program.

I ask that the voices of opposition be now given fair and equal treatment so the Governor of Indiana can make a reasoned and fair decision on this proposal. I can find no law that prohibits the inclusion of public comment that is in opposition of any proposed Federal or State Program.

Thank you for your assistance. It is critically important to the citizens and elected officials of Northwest Indiana that their voices be heard.

Sincerely,

Bill Theis, Trustee

Cc: Senator Richard G. Lugar  
Senator Evan Bayh

**WRITTEN COMMENT #16:** Bill Theis, Trustee, Pine Township  
Nov. 2, 2001

**Response to Comments:**

1. Comment regarding enclosed resolutions, news articles, and letters of opposition as public comment with reference to the proposed Indiana Lake Michigan Coastal Program Document and Draft Environmental Impact Statement.

Thank you for your comment. No written change required.

NOAA and DNR received and considered your written comments submitted on the P/DEIS. However, NOAA and DNR cannot respond to the photocopied form letters and other materials enclosed from 1995 as they pertain to earlier informal public scoping efforts. The form letters do not relate to submittal of the Indiana P/DEIS, are not dated, and are not in response to the present inquiry for public comment on the P/DEIS.

2. Comment regarding that opposition was ignored in 1995 and during the scoping process in June 2001.

Thank you for your comment. No written change required.

The testimony provided by Mr. Theis at the June 26, 2001 public meeting on the LMCP Scoping Document 2001 was included on page 438 of the Lake Michigan Coastal Program and Draft Environmental Impact Statement (P/DEIS). The testimony included both Mr. Theis' statements and the letter read as part of public comment. In addition, written comments submitted by Mr. Theis were included on page 454 of the P/DEIS. The program development history is described in Chapter 6: Program Development and Coordination from pages 317 to 318, in which the opposition discussed by Mr. Theis is described.

Copies of all the petition letters submitted by Mr. Theis were not included as comments on the June 2001 Scoping Document for the Indiana LMCP. As noted in the P/DEIS, these letters were part of a previous effort and not within the scope of this public input process. However, Mr. Theis' comments were considered and, as stated on page 454 of the P/DEIS, upon review of the material submitted it was noted that many of the written statements did not support a coastal zone management program when they were written (approximately 1995).

## Rounds, Laurie

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**From:** Lee Botts [leebotts@interaccess.com]  
**Sent:** Saturday, November 03, 2001 12:48 PM  
**To:** Laurie Rounds  
**Subject:** comments



Comments on draft  
program & EI...

Attached are my comments on the Program Document/draft EIS. Lee Botts

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This email was from Lee Botts:  
leebotts@interaccess.com

# **COMMENTS ON LAKE MICHIGAN COASTAL PROGRAM DOCUMENT FOR**

## **INDIANA AND DRAFT ENVIRONMENTAL IMPACT STATEMENT**

**NOVEMBER 5, 2001**

These comments are submitted on my own behalf, as a long time participant and observer in coastal management inside and outside government and a full time shoreline resident of Indiana since 1990. My experience with the Coastal Zone Management Act includes participation in efforts to develop programs in Illinois and Indiana in the late 1970s. My subsequent tenure as chairman of the former Great Lakes Basin Commission included coordination for all the programs of the Great Lake states that did adopt coastal zone management (CZM) programs at that time. In my last full time position before retirement, I represented the City of Chicago in development of the lakefront rehabilitation project that is now underway.

In the early 90s, I conducted a series of public meetings on proposed legislation to create no boat zones as a consultant to the Northwest Indiana Regional Planning Commission. In the first stage of consideration of Indiana participation in the federal program, I prepared a report identifying current shoreline uses for the Indiana Department of Natural Resources (IDNR) and recommended formation of the E-coli task force as a first step toward a more coordinated approach to regional shoreline issues.

I have closely followed progress the current coastal program for Indiana but have had no role in its development except as an interested citizen. Currently I am a member of the Lake Michigan Advisory Committee to the City of Chicago which is joining with state agencies in in developing a coastal program for Illinois. I also participate on related issues with several local, regional and national environmental organizations. My comments are based on review of the September, 2001, program document and draft environmental impact statement (EIS).

Over all, I endorse the proposed program, yet the September, 2001, document begs the following questions:

1. Will state government use the Coastal Program to provide guidance and leadership in addressing the public policy issues that are raised by the dynamic changes in shoreline use that are already underway or may be in prospect?
2. Are local agencies willing to use the Coastal Program to coordinate their uses of the shoreline more coherently and avoid the hodge podge results of the past?
3. Will the Coastal Program include sufficient education for the public and for public officials to foster adequate appreciation of the value of Lake Michigan and coastal resources for both local residents and the rest of the state?

### **NEED FOR POLICY COORDINATION FOR SHORELINE USES**

Assumption of state responsibility for the Lake Michigan shoreline is made more urgent and timely in view of the major changes in uses that are already underway and the many more in prospect. The need to consider how the future on the shoreline will be different was first articulated by First District Congressman Peter Visclosky in his call for a new "Marquette



Plan” well over a decade ago. As he said then, the changes include declining industrial use, need for economic diversification and rising demand for public access for recreation and for protection and restoration of natural areas. Except for marina development, for the most part decisions on uses of the shoreline are still being made piecemeal by local governments and private entities.

The history of conflict over shoreline uses is reflected in the amazing current mix of industrial, residential, and recreational uses that is almost unique to the Indiana shoreline. The program document refers to many of the problems caused by the past lack of coordination or cohesive policy. One example is the increased erosion caused by construction of navigation or certain kinds of erosion control measures. Another is the difficulty of providing recreational access in the presence of major pollution sources. Another is the conflict between the public’s right to access to Lake Michigan and private property rights.

Changes already underway or potential changes include the declining industrial use that Congressman Visclosky foresaw. Will the Coastal Program provide leadership for a shoreline “brownfield” program? The state has changed its former policy of encouraging lakefill for industrial purposes (referred to in one sentence in the document), but would any lakefill already created in the past for which industrial use is abandoned belong to the public under the doctrine of public trust? An agreement between the Save the Dunes Council, the Lake Michigan Federation and the Grand Calumet Task Force suggests that this might be the case.

In another single sentence observation, the document points out that under existing state law that defines the “ordinary high water mark,” shoreline uncovered by receding lake levels belongs to the public. If, as many scientists believe, a new shoreline emerges with a permanent drop in lake , will the Coastal Program help assure public access to use of that shoreline? To do so will require that the state assure consistent policy on this question for all local jurisdictions.

To conclude on this point, my concern is that the emphasis on using Coastal Program funds for grant funding for local projects will undermine the need for policy coordination and perpetuate uncoordinated shoreline development in the future as in the past.

## **NEED FOR COORDINATION BY LOCAL SHORELINE JURISDICTIONS**

The principal purpose of the Coastal Program is stated as “to incorporate local priorities into the Lake Michigan Coastal Program.” The program will include an annual process to identify local priorities. The agency efforts to obtain public review and comment on the proposed program are commendable, yet the September, 2001, document contains no comments from municipalities or other jurisdictions listed in Appendix F has having been provided with information during the scoping process.

This means that there is no indication whether the agencies with which the DNR needs to develop partnerships in the Coastal Program are interested or willing to participate. I suspect they will indeed be interested in seeking grant funding for projects. Yet lack of indication about the kind of projects or actions for which shoreline municipal or other agencies might obtain funding from the coastal program provides a reasonable basis for the distrust of such a program reflected in comments from some members of the public. Has there been discussion behind closed doors?

The regulations of the National Environmental Policy Act require that comments on the Draft Environmental Impact Statement be documented in the final EIS. The document provides extensive information about authorities of the state on paper, but lacking evidence, there is no basis for the public to know whether the other agencies are willing to work with the DNR in partnerships rather than strictly through regulatory processes. In this case, it seems necessary for the DNR to report in the final EIS the foundation for its belief that local jurisdictions will in fact work cooperatively for development and implementation of coordinated policies rather than just compete for grants from the Coastal Program.

## **OPPORTUNITY FOR EDUCATING INDIANA CITIZENS**

My final comment is about the sketchy comments on use of the Coastal Program for education and for fostering appreciation for the value of the Lake Michigan shoreline to all the residents of Indiana. Again, there is a great need for change for the future compared to the past. The lack of knowledge of and the distorted knowledge of the Lake Michigan shoreline region in the rest of the state has persisted historically from the earliest days. Even locally, perhaps because of the limited public access, many residents of Lake, Porter and LaPorte counties are not familiar with the shoreline and lack understanding of Lake Michigan.

At the Indian Dunes Environmental Learning Center, we are astounded at the number of elementary and even high school students who visit the shoreline for the first time in our educational programs. On the evaluation forms completed at the end of programs, many students identify their experience on the shoreline as the highlight of their experience.

I urge that Indiana follow the lead of our neighbors in Michigan and Ohio to include major educational efforts throughout the state in the Coastal Program. Both states work with not for profit organizations not just to inform citizens but to involve them in celebrating the wonders of their Great Lakes shorelines. In Ohio, Lake Erie Week is a major summer event. In Michigan, many local festivals celebrate the four lakes on which this state has shorelines.

I have seen Indiana identified as "an inland state" in publications produced in Indianapolis. I propose that the Indiana Lake Michigan Coastal Program take the lead for creation of such celebrations not just in this region but also at least in Indianapolis and perhaps even in Kokomo and other places unaware that Indiana is, in fact, a Great Lake state.

## **CONCLUSION**

In summary, again I endorse the proposed Coastal Program but urge that it articulate a vision for making the Lake Michigan shoreline more accessible and more appreciated by the public at large. I urge also that grant funding be provided only for local projects consistent with a larger vision that is reflected in local practices that are consistent with state policies as well as regulatory authorities.

Respectively submitted,

Lee Botts  
9731 Pine Place  
Gary, Indiana 46403-1851

**WRITTEN COMMENT #17: Lee Botts**

Nov. 3, 2001

**Response to Comments:**

1. Comments regarding "Will state government use the Coastal Program to provide guidance and leadership in addressing the public policy issues that are raised by the dynamic changes in shoreline use that are already underway or may be in prospect?"

Thank you for your comment. No written change required.

The LMCP will work toward improving government decision-making and coordination. Working with the entities involved in policy issues that affect the coastal region will be an important aspect of achieving this goal. The LMCP will work through the Coastal Program Network, discussed in Chapter 4: Indiana Lake Michigan Coastal Program Implementation, to address policy issues that affect the coastal region.

The boundary of jurisdiction with respect to a navigable waterway, such as Lake Michigan, is its "ordinary high watermark." The definition for the ordinary high watermark of a navigable waterway used by the Army Corps has been adopted by rule by the NRC (312 IAC 1-1-26(2)). The adopted definition sets the ordinary high watermark for Lake Michigan at 581.5 feet I.G.L.D., 1985 (582.252 feet N.G.V.D., 1929). This boundary of jurisdiction is consistently used by Indiana to identify shoreline areas within the public domain and therefore areas subject to the public trust doctrine.

The physical area of a navigable river or lake is what is included within its ordinary high watermark. Because water levels raise and lower periodically, the actual water's edge at any particular time is likely to be inside or outside the legal boundaries of state jurisdiction. The practical result is that sandbars or portions of the banks of a river during a low-water period are likely to be within the ordinary high watermark and public domain. Similarly, beaches along Lake Michigan, which emerge during low-water periods, are public domain. Conversely, areas above elevation 581.5 feet, I.G.L.D. 1985, along Lake Michigan are the private property of the riparian owner, even though inundated during periods of high water.

Lakefill areas were permitted by Indiana state law and a land patent was issued to the applicant. Application of the public trust doctrine to lakefill areas would depend upon the transfer clauses in the land patent.

The LMCP will determine if activities such as brownfield redevelopment and the identification of public beach areas will be program priorities based on the input provided during public meetings in northwest Indiana and the input of the stakeholders advisory group. Utilizing public and stakeholder input, the LMCP will seek to achieve a balance in resources used for effective program administration and resources used to form partnerships through a Coastal Grants Program.

2. Comments regarding, "Are local agencies willing to use the Coastal Program to coordinate their uses of the shoreline more coherently and avoid the hodge podge results of the past?"

Thank you for your comment. No written change required.

The LMCP will act as a partner in the regional effort to protect, restore, and responsibly develop Indiana's coastal areas. Implementation of the LMCP will not limit or alter the legal jurisdiction of local government over local land use decisions. However, the LMCP will seek opportunities to form partnerships on regional issues, to provide technical assistance, and to bring heightened attention to

Coastal Areas of Significance. In addition, the Coastal Grants Program will encourage partnerships and long-term planning by local agencies for projects funded by the LMCP.

The LMCP document details in Chapter 7: Lake Michigan Coastal Program Funding and Grants Program the types of eligible projects that municipal or other agencies can obtain funding for through the Coastal Grants Program; specifically, page 327 of the P/DEIS lists the objectives that projects must meet to qualify for funding.

During the 2001 scoping process, the DNR met with several local agencies and municipalities to discuss the LMCP and gain their input on local participation and potential partnerships. Overall, local agencies and municipalities indicated their interest in participating in the implementation of the LMCP. It was also indicated that partnerships with the LMCP could assist in their efforts to manage coastal resources including efforts for natural resources protection, recreation, revitalization, and economic enhancement. In addition, several local agencies have participated in public hearings and submitted comments on the P/DEIS. The LMCP will continue to work with local agencies and municipalities on coastal management issues.

The LMCP sets forth a framework, based on existing policies, laws, and programs, that links existing agencies and laws into a comprehensive system. Through networking among members, state and local perspectives on the management of coastal resources can be integrated. The network will lead to improved coordination, clear establishment of priority issues, and a well-focused effort to meet those priorities.

3. Comments regarding, "Will the Coastal Program include sufficient education for the public and for public officials to foster adequate appreciation of the value of Lake Michigan and coastal resources for both local residents and the rest of the state?"

Thank you for your comment. No written change required.

The LMCP recognizes the importance of education and outreach for gaining support for the protection and restoration of Indiana's coastal resources at the national, state, and local levels. Eligible education and outreach projects will be supported through the Coastal Grants Program. In addition, by forming a partnership with the federal Coastal Zone Management Program and participating in the network of coastal states, Indiana will have increased opportunities to participate in national and regional education and outreach initiatives.

Technical assistance is also an important component of the LMCP. The LMCP proposes to utilize the Coastal Grants Program, the development of the Coastal Nonpoint Pollution Management Plan, and the process of identifying Coastal Areas of Significance to provide technical assistance to coastal resource management professionals. In addition, by participating in the network of coastal states, Indiana will be able to participate in training and workshops coordinated with other state, federal, and local agencies and organizations. Participation in national and regional research projects would also be possible through the participation in the federal program.

The LMCP will support activities for education, outreach, and technical assistance based on input by the public during annual meetings in northwest Indiana and by the stakeholders advisory group.

**Rounds, Laurie**

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**From:** Mark Reshkin [mreshkin@home.com]  
**Sent:** Saturday, November 03, 2001 10:33 AM  
**To:** coastal@dnr.state.in.us  
**Subject:** Indiana Lake Michigan Coastal Program

Laurie Rounds, Program Manager  
Attn: Lake Michigan Coastal Program Comments  
Indiana Dept. of Natural Resources  
402 W.Washington Street, Room 204  
Indianapolis, IN 46204

November 3, 2001

Dear Ms. Rounds:

I have reviewed carefully the Draft EIS for the Lake Michigan Coastal Program in my role as Director of Environmental Affairs for the Northwest Indiana Forum and have reviewed them with Thomas McDermott, Forum President and offer comments below on his behalf. My experiences with past attempts to obtain a Coastal Zone Program for Indiana date back to the 1970's. I served as a consultant to DNR during a previous attempt to establish a coastal program and focused my efforts on determining a suitable boundary. My conclusions during the attempt previous to this current effort are mentioned in the EIS.

The regulatory climate that prevailed in the U. S. Department of Commerce's Coastal Zone Management Program were, at that time, such that it was difficult to support approval because of several requirements that would have imposed additional constraints on urgently needed economic growth in Indiana's coastal area. The Forum is most pleased to learn that now no new legislation is needed for acceptance by the U. S. Department of Commerce. With that in mind, the Northwest Indiana Forum supports the establishment of an Indiana Lake Michigan Coastal Program. This program presents effective opportunities to enhance the natural resources in northwest Indiana and their enjoyment, preservation and enhancement. We look forward to opportunities to partner with you in reaching the goals of the program.

We look forward to the initiation of the program and congratulate you for your efforts and the high quality of the EIS.

President

Sincerely yours,  
Mark Reshkin for Thomas McDermott,

Northwest Indiana Forum

Basin Development Commission

11/6/2001

**WRITTEN COMMENT #18:** Mark Reshkin, for Thomas McDermott, Northwest Indiana Forum  
Nov. 3, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

**Rounds, Laurie**

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**From:** Greg Buck [gregorybuck@hotmail.com]

**Sent:** Monday, November 05, 2001 6:59 PM

**To:** coastal@dnr.state.in.us

**Subject:** Support for Costal Zone Management

Ms. Rounds:

We need quality costal management for Lake Michigan for healthy biodiversity and to maintain the purity of our water. Please do all that is in your power to engage the State of Indiana in Costal Zone Management.

Gregory J. Buck  
537 Fletcher Ave. #2  
Indianapolis, IN 46203

11/6/2001

**WRITTEN COMMENT #19:** Gregory J. Buck  
Nov. 5, 2001

**Response to Comment:**

Thank you for your comments. No written change required.



Laurie Rounds, Program Manager  
Attn: Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources

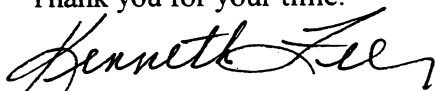
Dear Laurie,

As participants at the October 4, 2001 meeting, members of the S.T.O.P. organization, registered voters and generally interested property owners we are offering the following advice. If it is the intent of the present "powers that be" to reopen the controversial land rights issue by masking it with the concern offered at the meeting, please be advised that we are older, wiser, more informed and just as determined as we were ten years ago when Pete Visclosky, Save the Dunes Council and a few others felt they could overpower those that have owned and cared for property (yes, and as Herb Read (Save the Dunes Council) was so vocal about the land along Salt Creek); we will be watching all activity concerning this issue. Ten years ago was a living nightmare for those of us that have our lives involved in land; be it one generation or sixth generation Porter County settler descendents. This issue absorbed a tremendous amount of time, energy and private funds. We were required to attend a Senate sub committee hearing in Washington, D.C. Fortunately, those that determine citizens' future, had the wisdom to listen and know that property owners were in fact the ones to heed to. We're giving you the background to what we've already experienced as a forewarning that we will not tolerate any agency to put us through this horrible ordeal again.

Having said that, if you folks decide to trudge ahead and you do have your advisory committee, be well advised that committee will require land owners and residents as members. By land owners we mean private citizens, not "land owners" that were deeded the property by someone who felt they were doing the right thing only to have it discovered later that the property that was put into that group's care was traded, sold or whatever they deemed necessary to get their desired end result. (And, yes, folks, there are some "environmental groups" that do just that.)

As far as funding is concerned, being aware of the current state of affairs in this country of ours, it does seem as though this \$900,000 could be better spent other than a "study".

Thank you for your time.



Ken & Sharon Fee  
3138 Oakwood Street  
Portage, In. 46368

**WRITTEN COMMENT #20:** Kenneth Fee (also received by e-mail)  
Nov. 5, 2001

**Response to Comments:**

1. Comment regarding formation of the Coastal Program Advisory Group.

Thank you for your comment. No written change required.

The DNR will form a stakeholders advisory group to provide input on the Coastal Grants Program. The membership of the advisory group will be representative geographically as well as representative of interests in the Coastal Program Area. The DNR recognizes the importance of citizens and landowners as a stakeholder interest in the coastal region.

2. Comment regarding projected annual funding of \$900,000.

Thank you for your comment. No written change required.

The \$900,000 available to Indiana as a participant in the federal Coastal Zone Management Program would be available annually and is not simply allocated to a study. The funds received will be used to accomplish the goals outlined in Chapter 1: Indiana Lake Michigan Coastal Program Overview. In addition, funds received by the LMCP will be made available for local projects supporting the goals and objectives outlined in Chapter 7: Lake Michigan Coastal Program Funding and Grants Program of the P/DEIS through the Coastal Grants Program. Local, state, and regional agencies and organizations will be eligible to participate in the Coastal Grants Program. Examples of eligible projects include: low-cost construction projects, such as dune walkovers and boat launches; planning and enhancement of beach access points; reinvigorating economically depressed waterfronts; preventing and monitoring beach erosion; providing technical assistance on shore protection and bluff stabilization; providing assistance for local planning; and restoration of natural habitats.

Laurie Rounds, Program Manager  
Attn: Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources

Dear Laurie,

As participants at the October 4, 2001 meeting, members of the S.T.O.P. organization, registered voters and generally interested property owners we are offering the following advice. If it is the intent of the present "powers that be" to reopen the controversial land rights issue by masking it with the concern offered at the meeting, please be advised that we are older, wiser, more informed and just as determined as we were ten years ago when Pete Visclosky, Save the Dunes Council and a few others felt they could overpower those that have owned and cared for property (yes, and as Herb Read (Save the Dunes Council) was so vocal about the land along Salt Creek); we will be watching all activity concerning this issue. Ten years ago was a living nightmare for those of us that have our lives involved in land; be it one generation or sixth generation Porter County settler descendents. This issue absorbed a tremendous amount of time, energy and private funds. We were required to attend a Senate sub committee hearing in Washington, D.C. Fortunately, those that determine citizens' future, had the wisdom to listen and know that property owners were in fact the ones to heed to. We're giving you the background to what we've already experienced as a forewarning that we will not tolerate any agency to put us through this horrible ordeal again.

Having said that, if you folks decide to trudge ahead and you do have your advisory committee, be well advised that committee will require land owners and residents as members. By land owners we mean private citizens, not "land owners" that were deeded the property by someone who felt they were doing the right thing only to have it discovered later that the property that was put into that group's care was traded, sold or whatever they deemed necessary to get their desired end result. (And, yes, folks, there are some "environmental groups" that do just that.)

As far as funding is concerned, being aware of the current state of affairs in this country of ours, it does seem as though this \$900,000 could be better spent other than a "study".

Thank you for your time.

Ken & Sharon Fee  
3138 Oakwood Street  
Portage, In. 46368



**WRITTEN COMMENT #21:** Sharon Fee (also received by e-mail)  
Nov. 5, 2001

**Response to Comments:**

See response to Comment #20 (Kenneth Fee, same letter).

Thank you for your comments. No written change required.

**Indiana Lake Michigan Coastal Program and Draft EIS Comment Form**

What is it with you guys? What part of NO  
don't you understand? It was a bad idea  
in '95 when you first proposed CZM and it's  
still a BAD idea.

We need LESS government not MORE/BIGGER government.  
What is with you people? We the PEOPLE have spoken!  
So as you're told. Stop the nonsense!

There are several ways to provide comments on the Lake Michigan Coastal Program Draft EIS.

- Attend public meetings and give your comments directly to IDNR officials
- Return this comment form to the registration desk at the meeting or mail to the address below
- Call toll free 1-866-500-7010
- Fax your comments to: 1-800-917-7490
- Comment via e-mail: [coastal@dnr.state.in.us](mailto:coastal@dnr.state.in.us)

Name (optional):

Virgil J. Gassaway, DDS

Organization:

Home or Organization Address (circle one):

605 S. CALUMET AVE.

City:

Chesterton

State:

IND

ZIP Code:

46304

Telephone (optional):

E-mail (optional):

Comments should be postmarked by Nov. 5, 2001 and mailed to:

Laurie Rounds, Program Manager  
Attn: Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 W. Washington Street, Room W264  
Indianapolis, Indiana 46204  
Toll free: 1-877-928-3755  
[coastal@dnr.state.in.us](mailto:coastal@dnr.state.in.us)



**WRITTEN COMMENT #22:** Virgil J. Gassoway, dds.  
Nov. 5, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

**BLACHLY, TABOR, BOZIK & HARTMAN**

DUANE W. HARTMAN  
DAVID L. HOLLENBECK  
THOMAS F. MACKE  
RANDALL J. ZROMKOSKI  
RICHARD J. RUPCICH  
CRAIG R. VAN SCHOUWEN

PATRICK A. LYP  
JEFFREY S. WRAGE  
THAIS ANN BULGER  
BRADLEY L. BANKS

ATTORNEYS AT LAW  
SUITE 401  
56 SOUTH WASHINGTON  
VALPARAISO, INDIANA 46383

TELEPHONE (219) 464-1041  
FACSIMILE (219) 464-0927

GLENN J. TABOR  
JAMES S. BOZIK  
OF COUNSEL

QUENTIN A. BLACHLY  
(1934-1997)

FORT WAYNE OFFICE  
4656 WEST JEFFERSON, SUITE 120  
FORT WAYNE, INDIANA 46804  
(219) 459-3288

November 5, 2001

Ms. Lorie Rounds  
INDIANA DEPT. OF NATURAL RESOURCES  
Division of Water  
402 W. Washington St., Rm W-264  
Indianapolis, IN 46204

RE: VLACD Inclusion in Indiana Lake Michigan Coastal  
Program

Dear Ms. Rounds:

I initiate this correspondence in connection with the above-captioned matter and in my capacity as legal counsel to the Valparaiso Lakes Area Conservancy District. The Board of Directors of the conservancy district voted unanimously to seek inclusion of the conservancy district in the Lake Michigan Coastal Program.

VLACD is located in the lake area north of Valparaiso. The conservancy district was originally formed in 1974 to address malfunctioning septic system problems and drinking water concerns in the Flint-Long-Loomis Lakes area. VLACD constructed and maintains a sanitary sewer collection system and a drinking water distribution system for approximately 1000 customers. VLACD has been actively involved in surface water drainage issues. The conservancy district regulates drainage within its boundaries and also enforces a comprehensive soil erosion and sedimentation ordinance. The conservancy district also enforces the Porter County Wetland Preservation Ordinance within the conservancy district boundaries.

Originally, Loomis Lake drained through Spectacle Lake and into Salt Creek and eventually into Lake Michigan. In the early part of the last century, the Valparaiso Water Department changed the water flow and directed the water from Spectacle and Loomis Lakes into Flint Lake and eventually into the Kankakee River. The

**BLACHLY, TABOR, BOZIK & HARTMAN**

Ms. Lorie Rounds

November 5, 2001

Page Two

drainage was artificially changed because the water department wanted to utilize Flint Lake as a drinking water reservoir and wanted better control over the lake level. The outlet of Spectacle and Loomis Lake was "reversed" so that water now flows from into Flint Lake. However, the area originally was part of the Lake Michigan Watershed.

The current proposed boundaries for the Lake Michigan Coastal Program coincide with the current Lake Michigan Watershed and exclude the conservancy district. This is unfortunate inasmuch as the lake area north of Valparaiso shares virtually every characteristic of the Lake Michigan Watershed. The problems are the same, and the solutions are interrelated.

Although located south of VLACD, a portion of the City of Valparaiso is located in the Lake Michigan Watershed. Some of the surface water in the Lake Michigan Watershed portion of the City of Valparaiso is actually diverted through the Litzenburger Drain and is currently sent to Flint Lake. The lines of demarcation between the watersheds has been substantially impacted by various surface water drainage projects.

Furthermore, the VLACD sanitary sewer collection system is connected to the City of Valparaiso sewage treatment plant which discharges into Salt Creek and thereby into Lake Michigan returning water to the Lake Michigan Watershed from the conservancy district.

Groundwater generally flows from the lake area north of Valparaiso into the Lake Michigan Watershed area. Obviously, groundwater is unaffected by the watershed boundaries.

VLACD is also in the process of beginning its involvement in the US EPA Phase II regulations regarding surface water drainage issues. It is apparent that compliance with these regulations will necessitate a coordinated effort on surface water drainage issues



BLACHLY, TABOR, BOZIK & HARTMAN

Ms. Lorie Rounds  
November 5, 2001  
Page Three

with most of the other government units in northern Porter County. Obviously, most of these other governmental units are included in the Lake Michigan Coastal Program and to exclude VLACD would place an unnecessary and unwarranted barrier against cooperation and coordination of programs.

VLACD activities include identification of non-point source pollution problems, wetland preservation, water resource issues and environmental concerns in the region. VLACD has been the recipient of LARE Grants for construction of a sediment trap designed to improve water quality in Flint Lake.

VLACD is in the process of completing a comprehensive watershed management study in coordination with the Valparaiso Stormwater Management Board. I have discussed this matter with Dr. Mark Reshkin who is the current Chairman of the Valparaiso Stormwater Management Board. He is supportive of including VLACD in the Lake Michigan Coastal Program boundaries.

I am enclosing herein a topographic map showing the boundaries of the Valparaiso Lakes Area Conservancy District. It is respectfully requested that VLACD be included in the final boundaries for the Indiana Lake Michigan Coastal Program. If any additional information is needed in connection with this request, please feel free to contact the undersigned.

Sincerely,

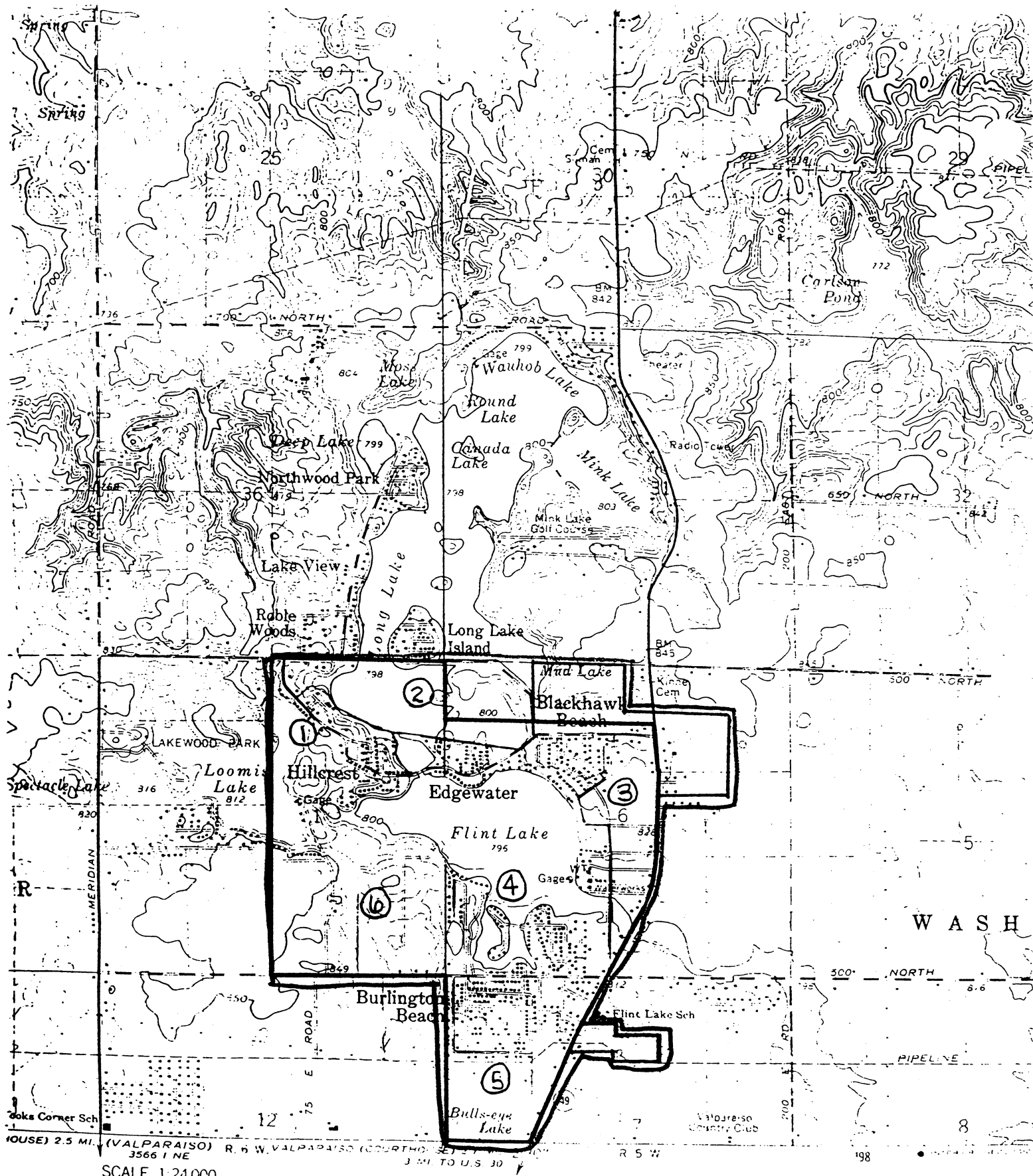
BLACHLY TABOR BOZIK & HARTMAN  
Attorneys at Law

By:

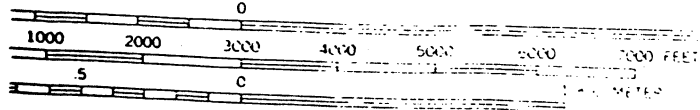
  
David L. Hollenbeck

DLH/msr  
enclosure

SENT REGULAR MAIL AND FAX TO (317) 233-4579



SCALE 1:24000



CONTOUR INTERVAL 10 FEET

DOTTED LINES REPRESENT 5-FOOT CONTOURS  
DATUM IS MEAN SEA LEVEL

Interstate Route

**WRITTEN COMMENT #23:** David L. Hollenbeck, for Valparaiso Lakes Area Conservancy District  
Nov. 5, 2001

**Response to Comments:**

1. Comment regarding inclusion of the area covered by the Valparaiso Lakes Area Conservancy District in the program boundary.

Thank you for your comments. No written change required.

Thank you for your comments concerning the inclusion of the Valparaiso Lakes Area Conservancy District (VLACD) in the Indiana Lake Michigan Coastal Program. The work done by the VLACD has resulted in several improvements to the water quality of the Valparaiso lakes area. While we feel the work done by the Conservancy District has led to improved water resource management, the boundary for the Coastal Program must focus on Lake Michigan resources. After careful consideration of your comments and the issues involved, we have decided not to alter the inland boundary to include the Valparaiso lakes.

The original inland boundary was selected to incorporate those areas within the current surface water drainage basin for Indiana's portion of Lake Michigan. The Valparaiso lakes are an important resource for Porter County; however, the surface drainage for the lakes is within the Kankakee River basin. Based on the 1991 *Feasibility Study on Water Quality and Sedimentation in Flint Lake Porter County, Indiana*, the Flint Lake watershed, including the four major point sources, also lies predominately outside the current surface drainage to Lake Michigan and the current Lake Michigan Coastal Program inland boundary.

The Department of Natural Resources is committed to working with the VLACD on projects to improve the Valparaiso lakes area. Exclusion from the Lake Michigan Coastal Program will not hinder the VLACD in forming partnerships with other programs in the Department of Natural Resources. Thank you for your continued efforts to manage and improve the Valparaiso lakes area.

## **Rounds, Laurie**

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**From:** bruce jones [brucejones2001@yahoo.com]  
**Sent:** Monday, November 05, 2001 9:55 PM  
**To:** coastal@dnr.state.in.us  
**Subject:** Indiana participation in CZM Program

To: Laurie Rounds, Manager  
Coastal Zone Management Program  
Indiana Dept. of Natural Resources  
402 W. Washington, Rm. W264  
Indianapolis, Indiana

I had previous mailed in a comment. I attended the hearing held at the Portage Yauht Club. My comment mailed in was about the need to use the program funds to help prevent combined sewer overflows, and that any other use of these funds would be wasted until the CSO's end.

I would like to change my comments.

I believe Indiana participation in the CZM Program can benefit Indiana, and Lake Michigan.

In N.W. Indiana combined sewer overflows can include non-point source pollutants. Assistance here would help prevent pollution of N.W. Indiana's streams, rivers, creeks, and of Lake Michigan...and the non-point source contaminants do make their way into sewer overflows where are there combined sewer and storm water systems...and there are at least 6 different communities in N.W. Indiana with these combined systems that are affected by non-point source pollution.

Bruce F. Jones, P.O. Box 866, Portage, IN 46368

help

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Do You Yahoo!?  
Find a job, post your resume.  
<http://careers.yahoo.com>

**WRITTEN COMMENT #24:** Bruce F. Jones (comments have been substituted for other comments previously received on Oct. 4, 2001, at the request of the commenter)  
Nov. 5, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

## **Rounds, Laurie**

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**From:** Christa Jones [christa@iaswcd.org]  
**Sent:** Monday, November 05, 2001 7:48 AM  
**To:** coastal@dnr.state.in.us  
**Cc:** Sandra Wilmore; Sherm Bryant; april-ingle@iaswcd.org; Steve Graber; Edgar Corns  
**Subject:** CZM Program

To: Laurie Rounds, Program Manager  
Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street, W264  
Indianapolis, IN 46204

From: Christa Martin Jones  
Executive Director  
Indiana Association of Soil and Water Conservation Districts, Inc.  
225 South East Street  
Suite 740  
Indianapolis, IN 46202

Date: November 5, 2001

Re: Support for Coastal Zone Management Program

The Indiana Association of Soil and Water Conservation Districts supports Indiana's Lake Michigan Coastal Program, and requests full approval and implementation.

This program will benefit local agencies and organizations currently partnering to protect and enhance coastal resources.

Thanks for your attention.

**WRITTEN COMMENT #25:** Christa Jones, Indiana Association of Soil and Water Conservation  
Districts  
Nov. 5, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

November 5, 2001

Laurie Rounds, Program Manager  
Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street, Room W264  
Indianapolis, Indiana 46204

The Grand Calumet Task Force strongly supports Indiana's Lake Michigan Coastal Program. The coastal resources of Indiana's Lake Michigan are among the rarest and most threatened in the entire nation. We encourage Indiana's participation in the federal Coastal Zone Management Program since Indiana is one of only two eligible states not taking advantage of it. The program would add more than \$900,000 per year to protect and enhance our coastal resources. More money may be available through other sources for CZM states.

The current proposal is based on existing laws and regulation so there is no need for additional laws and regulations. The goal of developing partnerships with local agencies and organizations fit well with the increasing number of partnerships in Northwest Indiana working in cooperation to protect and enhance our coastal resources and working to improve our quality of life.

The program will also enhance the protection of important historic and cultural resources in the coastal area. We are particularly supportive of this aspect because of our participation in the Calumet Heritage Partnership, a bi-state coalition working to preserve and promote the natural, historical and cultural heritage of the Calumet Region of Indiana and Illinois. In addition to protection, CZM promotes appropriate economic development, such as tourism, in the coastal area. This is vital to the future of Northwest Indiana as our economy diversifies.

We look forward to full approval and implementation of Indiana's Lake Michigan Coastal Program.

Sincerely,

Bowden Quinn  
Executive Director



**WRITTEN COMMENT #26:** Bowden Quinn, Executive Director, Grand Calumet Task Force  
Nov. 5, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

## Rounds, Laurie

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**From:** Phyllis Reeder [phyllis-reeder@iaswcd.org]  
**Sent:** Monday, November 05, 2001 4:57 PM  
**To:** coastal@dnr.state.in.us  
**Subject:** Support for Coastal Zone Management Program



Card for Phyllis  
Reeder

To: Laurie Rounds, Program Manager  
Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street, W264  
Indianapolis, IN 46204

From: Phyllis Reeder  
Administrator  
Lake County Soil and Water Conservation District  
928 South Court St., Suite C  
Crown Point, IN 43607

Date: November 5, 2001

Re: Support for Coastal Zone Management Program

The Lake County Soil and Water Conservation District supports Indiana's Lake Michigan Coastal Program, and requests full approval and implementation.

This program will benefit local agencies and organizations currently partnering to protect and enhance coastal resources.

Thanks for your attention.

**WRITTEN COMMENT #27:** Phyllis Reeder, Administration, Lake County Soil and Water  
Conservation District  
Nov. 5, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

**Rounds, Laurie**

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**From:** Alan & Donna Resetar [resetar2@home.com]

**Sent:** Tuesday, November 06, 2001 12:56 AM

**To:** coastal@dnr.state.in.us

**Cc:** Alan Resetar

**Subject:** Comments on Lake Mich. Coastal Program

Laurie:

Here are my comments on the LMCP Document:

I support the proposed Indiana Lake Michigan Coastal Program. The Indiana Coastal Zone in Lake, Porter and LaPorte Counties is a biologically significant area despite its high degree of industrialization and urbanization. The ICZ is characterized by an exceptionally diverse flora and fauna due, in part, to the juxtaposition of significant North American habitats, the eastern deciduous forest and the tallgrass prairie. The effects of Pleistocene glaciation shaped the topography of the coastal zone and added to its biological and geological uniqueness.

The Indiana Coastal Zone is especially significant in terms of overall amphibian and reptile species diversity. In addition, several Indiana endangered and special concern species such as the Kirtland's snake (*Clonophis kirtlandii*) and the eastern massasauga rattlesnake (*Sistrurus c. catenatus*) are or have been found historically within the ICZ. Also significant are populations of polyploid ambystomatid salamanders (*Ambystoma* sp.), a unique color phase of the eastern garter snake (*Thamnophis s. sirtalis*) normally associated with Lake Erie's coastal wetlands and a population of Blanchard's cricket frog (*Acris crepitans blanchardi*) in Gary. Until the 1970's, the cricket frog was common in the Chicago region. It has since disappeared in the Chicago region (including all of Cook County, Illinois) with the exception of populations in Gary, near Elwood in western Will County, Illinois and in Berrien County, Michigan.

An effort should be made to survey and protect areas of geological significance as permanent geological study sites. Remnants of Pleistocene beach ridges or morainal formations that are not already safeguarded in existing preserves such as the National Lakeshore, State Nature Preserves and county parks should be preserved.

The cultural and historic preservation aspects of the Program are also important. It is imperative to preserve structures reflecting the industrial and cultural heritage of the ICZ.

I would also like to see the following category added to the "Criteria for Designation" for "Areas of high natural productivity or essential habitat for living resources..." on page 337.

*Man-altered sites that harbor one or more endangered species and/or unusually large numbers of individuals of common, native vertebrate species.*

The reason for this category is to protect sites that may be degraded from the standpoint of natural area classification but still sustain amphibians and reptiles. For example, the Kirtland's snake, an Indiana endangered species, can be quite common in selected urban vacant lot settings.

Sincerely,

Alan Resetar

482 Park Ave.

Valparaiso, IN 46385

11/6/2001

**WRITTEN COMMENT #28:** Alan and Donna Resetar

(due to time difference between Indianapolis and Northwest Indiana, this comment was sent on Nov. 5, 2001 although it was stamped Nov. 6, 2001)

Nov. 5, 2001

**Response to Comments:**

1. Comment regarding addition of new criteria, "Man-altered sites that harbor one or more endangered species and/or unusually large numbers of individuals of common, native vertebrate species" for the category: "Areas of high natural productivity or essential habitat for living resources..."

Thank you for your comment. No written change required.

Thank you for your comments concerning the high diversity of amphibians and reptiles in the coastal region. The standards of natural area classification will not be the sole determinate of Areas of Particular Concern for either category that addresses vertebrate species. For example, the category, "Areas of unique scarce, fragile, or vulnerable natural habitats" includes as a criteria for designation, "areas that contain assemblages of rare species including one or more species of plant or animal considered rare, special concern, or watch list". In addition, the criteria for designation in the category "Areas of high natural productivity or essential habitat for living resources, including fish, wildlife, endangered species, and the various trophic levels in the food web critical to their well being" does not limit designation based on the standards of natural area classification nor on the presence of only rare wildlife species. Instead the criteria of both categories acknowledge that wildlife species may be located in areas of various levels of habitat quality and that it is important to identify those areas that are critical to the maintenance of an existing population. Therefore, sites that are critical to the maintenance of a population of amphibian and reptile species will not be excluded based on habitat quality and there is no need to add an additional criterion.

## **Rounds, Laurie**

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**From:** John and Elma Thiele [jhtjr@niia.net]  
**Sent:** Monday, November 05, 2001 9:42 PM  
**To:** coastal@dnr.state.in.us  
**Subject:** Coastal Program

November 5, 2001

Laurie Rounds, Program Manager  
Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street, Room W264  
Indianapolis, Indiana 46204

I would like to add my support to Indiana's Lake Michigan Coastal Program. Lake Michigan is a global treasure and the ability of Indiana to participate in federal Coastal Zone Management Program can encourage proper management of this treasure. Linkages to the other states participating in CZM can help to bring coordination to the management of Great Lakes Coasts.

It is exciting to see that the current proposal is based on existing laws and regulation and there is no need for additional laws and regulations. Northwest Indiana already has many partnerships among organizations and agencies. These partnerships could be further strengthened with the infusion of CZM funds. The focus on appropriate economic development in the coastal area can encourage the quality of our economy along with the quality of our environment.

I await full approval of the program and look forward to implementation of Indiana's Lake Michigan Coastal Program.

Sincerely,

Elma Thiele  
64 West Road  
Chesterton, IN 46304  
219-787-8983

**WRITTEN COMMENT #29:** John and Elma Thiele  
Nov. 5, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

Shirley  
**HEINZE**  
ENVIRONMENTAL FUND

November 1, 2001

TRANSMITTED BY FAX AND REGULAR MAIL

Laurie Rounds  
Lake Michigan Coastal Program  
Department of Natural Resources  
402 W. Washington St., Room W264  
Indianapolis, IN 46204

Dear Ms. Rounds:

I am writing on behalf the Board of Trustees and staff of the Shirley Heinze Environmental Fund to offer our full support for the approval and implementation of Indiana's Lake Michigan Coastal Program.

The Heinze Fund is a land trust which has been working for 20 years to preserve and protect natural lands and endangered habitat in the Southern Lake Michigan Watershed, comprising portions of Lake, Porter and LaPorte Counties in Indiana. We have saved more than 700 acres of precious land in this area, and our greatest tool has been the ability to build partnerships with other non-profit groups, state, local and federal government agencies, and private corporations to help fulfill our mission. The Coastal Program will further enhance our efforts to achieve our goals.

It will be a pleasure to see Indiana joining other Great Lakes states in benefiting from this program, and I look forward to cooperative efforts with you and your staff to make it work for the people of Indiana.

Yours sincerely,



Ron Trigg  
Executive Director

Dedicated to the Preservation of Land in the Indiana Dunes since 1981



**WRITTEN COMMENT #30:** Ron Trigg, Executive Director, Shirley Heinze Environmental Fund  
Nov. 5, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

Joan Wiseman, Esq.  
405 Hendricks Street  
Michigan City, IN 46360

November 2, 2001

Laurie Rounds, Program Manager  
Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street, Room W264  
Indianapolis, Indiana 46204  
via email and U.S. mail

Dear Ms. Rounds:

I write in strong support of Indiana's Lake Michigan Coastal Program. The coastal resources of Indiana's Lake Michigan are among the most rare and threatened in the entire nation. I support Indiana's participation in the federal Coastal Zone Management Program and point out that Indiana is one of only two eligible states not taking advantage of CZM. The program would add more than \$900,000 per year to manage our coastal resources. In addition, more money may be available through other sources for CZM states.

The current proposal is based on existing laws and regulation and there is no need for additional laws and regulations. The goal of developing partnerships with local agencies and organizations fit well with the increasing number of partnerships in Northwest Indiana working in cooperation to protect and enhance our coastal resources and working to improve our quality of life.

The program will also enhance the protection of important historic and cultural resources in the coastal area. In addition to protection, CZM promotes appropriate economic development, such as tourism, in the coastal area. This is vital to the future of Northwest Indiana as our economy diversifies.

I am an attorney, I have lived in the Northwest Indiana region all of my life, and I have personally worked on this program for more than five years. I was one of the original members of the focus groups held at Portage, Indiana in the NIRPC Building several years ago. Like many local folks, I have spent much volunteer time on this project that gives us hope.

Sincerely,  
Joan Wiseman  
219-874-6171



**WRITTEN COMMENT #31:** Joan Wiseman, Esq. (also received by e-mail)  
Nov. 5, 2001

**Response to comments:**

Thank you for your comments. No written change required.



# LAKE MICHIGAN FEDERATION

November 5, 2001

Ms. Lori Kaplan, Director  
Indiana Department of Natural Resources  
402 W. Washington Street  
Indianapolis, IN 46204

Re: Lake Michigan Federation Support for Indiana's Lake Michigan Coastal Program

Dear Ms. Kaplan:

The Lake Michigan Federation is pleased to support the Indiana Department of Natural Resources effort to participate in the Coastal Zone Management Program.

During these cooling economic times, adoption of the Lake Michigan Coastal Program (Program) will bring nearly \$1 million in federal support to enhance the state's ecology, economy, and recreational opportunities.

The Program is critical to the entire state for a number of reasons. First, with recent Lake Michigan Federation research showing a record high 92 beach closings along the Indiana coast during the official 2001 beach season, the Program offers a significant tool for protecting public health from the bacteria pollution – often the result of sewage and runoff flowing into the lake – that causes beaches to close.

Second, with the state having lost approximately 90 percent of its wetlands – areas critical for fish habitat and flood control to guard against property damage – the Program can help preserve what's left and restore some of what's been lost.

Third, the Program will enhance public access. We believe that public access to Lake Michigan will help save the ecosystem, not vice versa: if people get out to the lake, they'll enjoy it, and want to help protect it.

The Department clearly has spent considerable time and resources in preparing the Lake Michigan Coastal Program Document/Draft Environmental Impact Statement. We urge the Department to adopt the recommendations contained in our comments to further enhance its efforts.

Ms. Lori Kaplan  
November 5, 2001  
Page Two

This year the Federation released a study showing the public's willingness to pay \$3-5 billion over 10 years to preserve the biological health of the Southern Lake Michigan Coastal Zone. Additionally, recent research shows that beach closings can cause local communities to lose millions of dollars in tourism revenue. Against this backdrop, Indiana cannot afford to not invest in its own coastal health.

Should you have any comments about our comments, please do not hesitate to contact me at [cdavis@lakemichigan.org](mailto:cdavis@lakemichigan.org) or (312) 939-0838 x2.

Sincerely,



Cameron Davis  
Executive Director

Enclosure

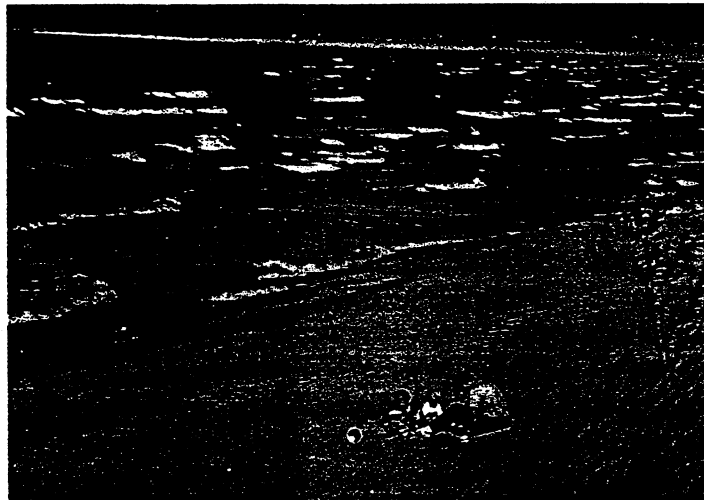
c: The Honorable Pete Visclosky  
Ms. Laurie Rounds, IDNR  
U.S. Fish & Wildlife Service  
NOAA



# LAKE MICHIGAN FEDERATION

## Enhancing the Economic & Ecological Vibrancy of Indiana's Lake Michigan Coast

### LAKE MICHIGAN FEDERATION COMMENTS ON THE INDIANA LAKE MICHIGAN COASTAL PROGRAM DOCUMENT & DRAFT ENVIRONMENTAL IMPACT STATEMENT



### Indiana's Program Participation Makes Economic & Ecological Sense

With these comments, the Lake Michigan Federation wholly supports the efforts of the Indiana Department of Natural Resources (IDNR) to adopt the Lake Michigan Coastal Program (LMCP). We urge approval by the National Oceanic and Atmospheric Administration (NOAA) pursuant to the federal Coastal Zone Management Act (CZMA).

The IDNR is to be commended for its effort to complete the Indiana Lake Michigan Coastal Program Document/Draft Environmental Impact Statement (P/DEIS). The effort to produce this document represents a significant investment of time by government officials and Indiana citizens alike.

Our support for Indiana participating as a member in the national coastal management program is based on several important facts.

First, the relationship established between Indiana and the federal government will be a partnership. Indiana will maintain full control over the management of its land, air and water resources while NOAA will provide: 1) significant funds to implement the LMCP,

and 2) additional coordination of many federal agencies, in the form of "federal consistency" under the CZMA. "Federal consistency" is a unique and powerful tool that provides Indiana with the authority to assert more control over the federal government. Federal consistency allows Indiana to ensure that most federal activities, licenses, permits, and financial assistance are consistent with the LMCP. In short, it assures Indiana citizens that federal agencies will not perform activities or take actions that might harm the resources or uses of the coastal area.

Second, the benefits to Indiana of having a coastal management program are clear. The LMCP will establish a comprehensive approach to ensuring that economic growth will continue while at the same time making sure that our precious coastal resources are protected, preserved and restored. Most importantly, the coastal program will improve the coordination of state agency decisions and resolve potential conflicts between state agencies. Additionally, current state funds will be matched with approximately \$900,000 of federal funds annually to enhance program activities of both state and local governments that affect coastal resources. A portion of those funds will also be used to implement the Coastal Grants Program. Third, the LCMP will not affect the current property rights of individuals or businesses. Fourth, the LCMP will establish a "networked" program that relies upon existing laws and programs without creating any new authorities to achieve its purpose.

Indiana will become the 34<sup>th</sup> state or territory to have a coastal program accepted by NOAA since passage of the CZMA in 1972. It would join two other major Lake Michigan states – Wisconsin and Michigan – by participating in the national coastal management program, which is completely voluntary and left to the discretion of the 35 eligible states and territories. The success of the unique partnership created by the CZMA is demonstrated by the fact that 33 states and territories are currently active members of the national program, and not a single one has ended its participation since joining.

In fact, several states and local governments recognize participation in the national coastal management program as the direct cause of strong coastal economies. In New York local communities have received additional funds and technical support to revitalize once decaying waterfront areas. In Massachusetts, the economic prosperity of coastal communities is linked to the development of proactive local harbor planning programs initiated through the state coastal program.

Indiana is potentially in an even stronger position to use the program to its economic advantage because of the enormous value of its existing resources. The Indiana Dunes National Lakeshore, for example, draws an estimated \$128 million in tourism revenue annually. Likewise, earlier this year, the Lake Michigan Federation released research showing a willingness to pay by the public between \$3 and \$5 billion over ten years for the preservation of the Southern Lake Michigan Coastal Zone, including Indiana. A copy



of the report, *The Natural Capital of the Southern Lake Michigan Coastal Zone: First Steps Towards an Economic Valuation*, is available online at [www.lakemichigan.org/habitat/value\\_index.asp](http://www.lakemichigan.org/habitat/value_index.asp).

Indiana must leverage these strengths further by participating in the program.

## Program Highlights

### Coastal Grants Program

We strongly support the proposal for LMCP to allocate a portion of the federal funds it receives to establish a Coastal Grants Program (CGP). The CGP will have three categories of grant projects: Coastal Natural Resources Protection and Restoration; Coastal Community Enhancement and Sustainability; and, Emerging Issues. A stakeholders advisory group will be formed to provide input for the CGP and the DNR. Funds will be provided through a competitive process based on predetermined guidance and public input, which is critical to the Lake Michigan Federation.

This proposal will offer many new opportunities for enhancing existing state efforts to manage the coastal area. Eligible activities will include projects that:

- Provide access to public beaches and other public coastal areas and waters;
- Prevent, remediate, or reduce polluted runoff that affects natural resources;
- Preserve or restore specific areas of the Coastal Program Area that are identified in the LMCP for their conservation or ecological values, or contain one or more coastal resources of state or national significance; and
- Maximize partnerships with public and private agencies.

These activities will only occur with the federal assistance being provided through the LMCP and are all good examples of the type of benefits Indiana will receive from the program.

### Habitat Protection and Restoration

We are pleased to see fish and wildlife habitat protection and restoration being addressed by the LMCP. Indiana has lost approximately 90 percent of its wetlands – marshes that provide habitat for wildlife and rare species while preventing flooding and,



therefore, property damage. As a result, an LMCP that takes steps to protect and restore sensitive coastal habitat is critical.

In addition to the new opportunities for habitat protection and restoration that will be provided by the CGP, there are several other important initiatives available in the LCMP. Specifically, the Coastal Areas of Significance initiative will bring heightened attention and protection to areas with special character. Coastal Areas of Significance will be prioritized within the CGP, and will receive more attention for interagency cooperation, technical assistance, and research and planning. The Coastal Areas of Significance will identify two categories for designation: *Areas of Particular Concern (APC)* and *Areas for Preservation and Restoration (APR)*. This is a very important program for the LMCP to advance as quickly as possible so that sensitive coastal habitat can be protected.

#### Public Access

The LMCP will use several of the existing state mechanisms that provide for the planning and protection of public access to significant coastal areas. LCMP funding can help enhance those existing efforts and focus more attention on coastal areas. In particular, the LCMP should ensure that public access to areas, which may involve or affect ecologically sensitive coastal resources, is provided in a way that does not cause degradation of those resources. The physical planning of public access areas as well as public education/outreach materials (e.g., signage, brochures) are examples of activities the LMCP can support.

In addition to the existing mechanisms for planning and protection of public access, the LCMP will use the process of APC and APR designation as a means to assess public beaches and other public areas for improving access. Improving public access will remain a high priority for those programs. The recent report prepared by the Epply Institute provides extensive information about the adequacy, and quality, of recreation and access within the Lake Michigan watershed. The report also discusses likely future trends, as well as many existing opportunities, for improving access for different purposes (lakeshore, boating, trails, underwater).

#### Water Quality & Beach Health

Lake Michigan's water quality continues to be of critical concern to the state and people of Indiana. Unfortunately, existing efforts in Indiana to prevent and control polluted runoff have been inadequate and Lake Michigan beach closings continue to be a common occurrence. We request the LMCP bring critical coordination and resources to solve this serious problem.



Enhancing the Economic & Ecological Vibrancy of Indiana's Lake Michigan Coast  
Comments by the Lake Michigan Federation

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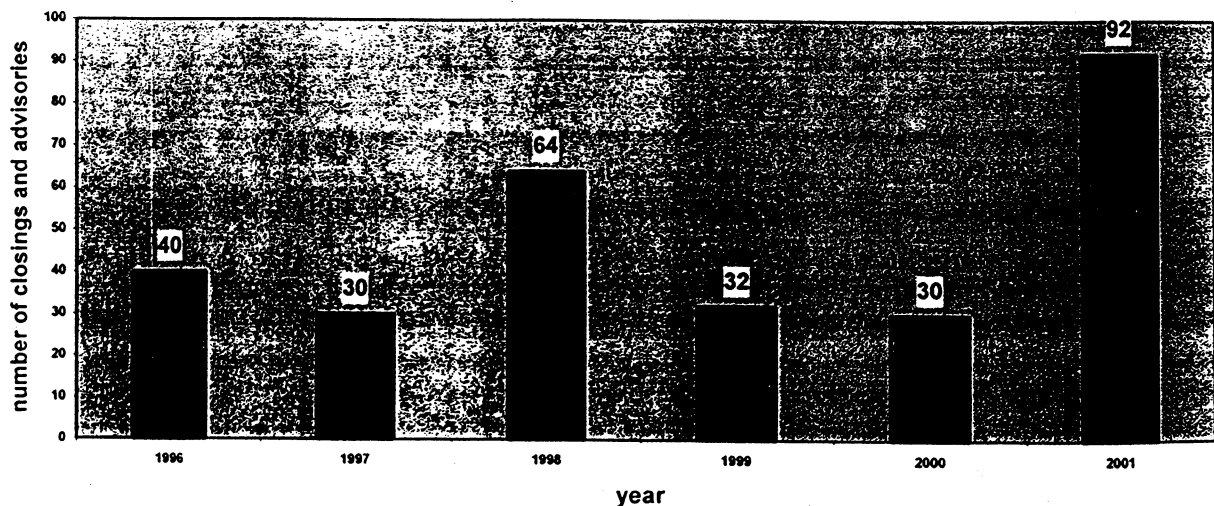
Fewer events show stress on waterways or threaten public health more than sewage that flows into the lake, causing beach closings. Contaminants such as pathogens, bacteria, and viruses usually enter the water with animal and human waste. A significant source of this contamination is from sewage overflows and polluted runoff coming from surface areas and contaminated groundwater.

Indiana in particular can experience these troublesome problems. Last year, more than 20 million gallons of untreated wastewater discharged to Salt Creek, through Burns Ditch and, ultimately, to Lake Michigan. Leaking septic systems exist in Northwest Indiana communities that allow waste to move easily through porous sand to enter local waterways. The results of these leaks and discharges can be devastating, as recent studies by Ohio State University show beach closings cause millions of dollars in economic losses to local communities.

Despite their importance to recreation and local economic health, however, Indiana's beaches are in enormous trouble.

Research released by the Lake Michigan Federation showed Indiana experienced a record high number of beach closings – 92 – during the official 2001 beach season. The next highest number of closings was in 1998, when the state experienced 64 closings. More information on Indiana beach closings is available online at: [www.lakemichigan.org/conservation/beach\\_health\\_index.asp](http://www.lakemichigan.org/conservation/beach_health_index.asp).

### Indiana Lake Michigan Beach Closings and Advisories



Source: Lake Michigan Federation, October 2001, based on reports from governmental records.



Indiana has used the provisions of the federal Clean Water Act to develop several mechanisms to address polluted runoff including a:

- Nonpoint Source Task Force;
- Unified Watershed Assessment; and
- Nonpoint Source Management Plan

We expect the LMCP will help provide additional support to protect the waters and beaches of Lake Michigan. In addition to more agency coordination, technical assistance and educational efforts, specific on-the-ground actions need to be taken to prevent and control polluted runoff.

The LCMP has several opportunities to make significant contributions to this effort. First, adequate funds should be provided through the Coastal Grants Program for NPS activities. Second, development of the Coastal Nonpoint Pollution Management Plan (CNPMP) should proceed immediately. The CNPMP will contain specific "management measures", or strategies, to prevent and control polluted runoff from a variety of sources. The CNPMP will supplement existing mechanisms already in place and will be a valuable addition to Indiana's ability to effectively protect Lake Michigan waters and beaches. We fully support the CNPMP and hope to participate in its development.

## Specific Comments

### Document Organization and Content

The P/DEIS is organized in a logical way to address specific requirements of the National Environmental Policy Act (NEPA) and the CZMA. The document is however, primarily a description of legal and procedural aspects of laws and programs, particularly in Chapter 5. The document lacks a meaningful discussion of what various programs actually do, and most importantly, how they will be enhanced by the LMCP, particularly with additional staff and funds. It would be helpful to include brief descriptions of those aspects of the programs that will most likely be focused on initially for additional support by the LMCP. This comment is particularly important because Indiana citizens deserve to understand how valuable this program will be to them.

### Coastal Program Network

The LMCP should state a simple goal for each of the issue-areas to help individuals understand what is expected for that issue-area, starting with the eight LMCP "goals"



identified in Chapter 1 (page 27). Somewhere the relationship between the goals and the issue-areas needs to be explained.

Indiana has chosen to develop the LMCP based on existing policies and laws that address land and water uses and resource protection. Through this approach Indiana will create a "networked" program among the numerous state and local entities that are responsible for managing resources in the coastal zone. The framework set forth by the LMCP will link existing agencies and laws into a comprehensive system, with the IDNR acting as the lead agency. We support the concept of a networked program for Indiana and making better use of existing laws and programs. The network approach will also foster more cooperation, consistency and partnerships among state and local entities.

The success of a networked program relies heavily on coordination mechanisms to implement the framework. The P/DEIS discusses the importance of coordination among state agencies and indicates that the LMCP will use a variety of existing agreements, boards and commissions to ensure state actions are consistent with the program, resolve conflicts and provide public participation. Of particular importance will be the *Memorandum of Understanding Concerning Permit Coordination For The Departments of Natural Resources and Environmental Management*. This MOU will be a core agreement for the LMCP to use to ensure the coordinated administration of the State's regulatory programs, as discussed in Chapter 4. The technical workgroup established by the MOU will undertake a number of activities and the LMCP should provide support for that effort.

To ensure the program is understood beyond the LMCP, certain simple steps must be taken. Networked programs, with so many different laws and programs being involved, often tend to be confusing to most individuals. The P/DEIS (Chapter 5) provides a summary of the numerous laws and programs grouped according to 10 issue-areas that were identified through the public process. The 10 issue-areas essentially become the LCMP "policies" that the laws and programs will implement.

### Boundary

The lakeward boundary of the Coastal Program Area is identified as the jurisdictional borders that Indiana shares with Illinois and Michigan. We support this boundary.

As stated on page 14 of the P/DEIS... "the inland extent of the boundary is based on the natural watershed boundary...". However, in order to have a boundary that is more easily identifiable, the watershed boundary was modified to define a program boundary based on the U.S. Public Land System, Township Sections, and major roads. It is unclear how much the modified boundary differs from the watershed boundary. Figure 3.3 should be clarified to show the watershed boundary as well as the proposed

boundary. Although it is helpful to have a boundary that can be easily identified, we believe that it is extremely important for the LMCP to have the ability to work within the entire watershed area. This will be critical for the program to adequately address water quality issues, particularly polluted runoff.

#### Federal Agency Coordination

Pursuant to the CZMA, the boundary of the LMCP must exclude federally owned or leased lands, even though those federal agencies are still subject to the Federal Consistency requirements of the Act. The fact that federal lands are excluded from the LMCP is of concern. The Indiana Dunes National Lakeshore, administered by the National Park Service (NPS), represents a significant portion of the Indiana shorefront with substantial biological resources. For example, the park ranks 7th among national parks in native plant diversity. Research shows that nearly 100 vascular plant species within park boundaries are on Indiana's threatened or endangered list. For these reasons we strongly urge that the LMCP act proactively and establish a coordination mechanism with the NPS early in the LMCP so as to avoid conflict later. It would actually be beneficial to create that mechanism as part of the final stage of program development to ensure it happens.

### **About the Lake Michigan Federation**

Formed in 1970, the Lake Michigan Federation is the oldest citizens' Great Lakes organization in North America. Our mission is to restore habitat, conserve land and water, and eliminate pollution in watershed of the largest lake within U.S. borders. We achieve these through education, research, law, science, economics, and strategic partnerships. Indiana's participation in the program is critical to the overall health of the Lake Michigan ecosystem.

These comments were prepared with the assistance of Jeffrey R. Benoit, who from 1993 to 2001 served as director of NOAA's Office of Ocean & Coastal Management in charge of all Coastal Zone Management aspects. Prior to that position, he served as director of Massachusetts' coastal zone program.

### **Conclusion**

Over the next 100 years, the Great Lakes – with nearly 20 percent of the fresh surface water on Earth, where such water is in increasing demand – are likely to become a more valued asset. With the incorporation of the above comments, Indiana can anticipate the economic, recreational, and ecological benefits of the next century by adopting the program.

**Response to Comments:**

1. Comment regarding "Document Organization and Content" and those aspects of the program that will most likely be focused on initially.

Thank you for your comment. No written change required.

During the initial stages of implementation of the LMCP, the program will focus on establishing the Coastal Grants Program, the development of the Coastal Nonpoint Pollution Management Plan, and establishing the process for consistency review and coordination. These activities will enhance both state and local programs to conserve natural and cultural resources in the Coastal Program Area.

The LMCP will develop a process for forming a stakeholders advisory group to provide input on the Coastal Grants Program. Additionally, the LMCP will develop support materials for the stakeholders advisory group and begin planning for group meetings. The LMCP will also establish the administrative structure necessary to implement the Coastal Grants Program. This will involve planning for public input meetings in Northwest Indiana, developing grant guidance material, grant agreement forms, and other support materials to hold an annual competitive grants program.

The LMCP will have 30 months upon final approval of the program to develop the Coastal Nonpoint Pollution Management Plan. As discussed in Chapter 14: Nonpoint Source Pollution, the LMCP will work with the DNR Division of Soil Conservation, IDEM, and other stakeholders such as soil and water conservation districts, local agencies, federal agencies, and nonprofit organizations to identify strategies and coordinate public participation in plan development. The Coastal Nonpoint Pollution Management Plan will identify sources of pollution that may contribute significantly to the degradation of coastal waters; critical coastal areas; management measures and existing state laws that address sources of pollution; technical assistance programs; and methods to improve coordination among agencies. The plan will also develop, with public participation, goals for reducing and mitigating the impacts of nonpoint pollution on coastal water quality.

The LMCP will establish a process to coordinate with the Coastal Program Network. The LMCP will provide members of the network with the final program document, supporting materials with information about the program's organization and implementation, and begin discussion of establishing coordination efforts. The LMCP will also develop guidance information for the process of federal consistency review. This will include providing federal agencies with information about the implementation of the federal consistency review process. The LMCP will also work with state agencies to establish the process of conducting consistency reviews and providing public notification of those reviews.

2. Comment regarding "Coastal Program Network" and the relationship between goals and the issue-areas of Chapter 5.

Thank you for your comment. No written change required.

The LMCP discusses 10 issue-areas that were identified as important by the Northwest Indiana Public Workgroups. For each of these issue-areas, the LMCP identified activities, currently managed by state laws, which impact coastal resources. It is through the programs that address these managed activities that the State seeks to manage natural and cultural resources. Because the LMCP is a networked program based on Indiana's existing state laws, the laws and programs outlined in Chapter 5 will provide a

framework for the LMCP to achieve its goals. The following table shows specific activities, as discussed in Chapter 5: Existing Management Authorities, whose management and implementation define the relationship between the issue-areas and the goals of the LMCP, listed on page 27 of the P/DEIS.

3. Comment regarding "Boundary".

Thank you for your comment. Change noted.

The LMCP is based on the watershed approach. The program boundary was modified in order for it to be easily identifiable. However, the Coastal Program Area predominately encompasses the watershed as defined by the U.S. Geological Survey and critical areas that historically drained into Indiana's portion of Lake Michigan. A watershed map with the inland boundary was added to Chapter 3: The Coastal Program Area of the P/FEIS.

4. Comment regarding "Federal Agency Coordination".

Thank you for your comment. No written change required.

The Indiana Dunes National Lakeshore is a significant partner in the protection and management of coastal resources in Northwest Indiana. However, as you mentioned in your comments, the CZMA requires that state coastal programs exclude federal properties from their programs. The CZMA would need to be amended to either incorporate the Indiana Dunes National Lakeshore into the LMCP or to require federal properties to coordinate activities conducted on federal lands with the LMCP. The National Park Service is required to comply with the provisions of federal consistency as outlined in Chapter 11.

The DNR and the Indiana Dunes National Lakeshore currently have a good working relationship. The Indiana Dunes State Park coordinates closely and participates in resource management projects with the staff of the Indiana Dunes National Lakeshore. In addition, the Divisions of Nature Preserves and Fish and Wildlife coordinate with the Lakeshore on resource management issues. The relationship between the LMCP and the Indiana Dunes National Lakeshore will continue to develop and methods of working together will be identified as the program develops.

The following table shows specific activities, as discussed in Chapter 5: Existing Management Authorities, whose regulation, management and implementation define the relationship between the issue-areas and the goals of the LMCP:

Procedural Frame-work	Coastal Hazards	Water Quality	Water Quantity	Natural Areas, Fisheries, Wildlife, Native & Exotic Species	Recreation Access, and Cultural Resources	Economic Development	Pollution Prevention Recycling Reuse, and Waste Management	Air Quality	Property Rights
Civil & Criminal enforcement	Delineating navigable waters	Processes, or systems, or practices that result in water quality degradation	Construction of flood control works, structures, alteration of waterways	Filling, dredging, and alteration of wetlands and special aquatic sites	Development of public park and recreation areas	Ports and adjacent development, maintenance, and expansion	Storage, handling, disposal and transportation of solid and hazardous wastes	Any process, or system, or practice that may be source of air pollution	Property taken for a public use: Just compensation
Pre-permit hearings	Construction along Lake Michigan and other navigable waters	Activities involving public water supplies	Construction activities within floodplains	Activities affecting natural areas, nature preserves, wildlife habitat, fish habitat, and areas of exceptional ecological significance	Development of public hunting and fishing areas	Siting and developing major energy facilities	Cleanup of unregulated hazardous waste disposal sites		Relocation assistance due to a public project
Administrative adjudication		Activities causing nonpoint source pollution	Reconstruction and maintenance of drains	Hunting, fishing, trapping, and related activities	Preservation of archeological and historical sites	Storing and transporting energy resources	Underground storage tanks		"Takings" analysis for new rules
Informal dispute resolution		Activities affecting ground water	Construction and maintenance of dams, levees, and dikes	Activities affecting fish and wildlife habitat areas		Planning, constructing, and maintaining transportation facilities	Pollution prevention, recycling, and reuse practices		Trespass



Procedural Frame-work	Coastal Hazards	Water Quality	Water Quantity	Natural Areas, Fisheries, Wildlife, Native & Exotic Species	Recreation Access, and Cultural Resources	Economic Development	Pollution Prevention Recycling Reuse, and Waste Management	Air Quality	Property Rights
Rules			Diverting water outside the Great Lakes Basin in Indiana	Activities affecting fish and wildlife		Brownfield redevelopment and associated remediation			Litter and trash
Nonrule policy documents			Water withdrawal	Activities affecting rare and endangered species					
Ordinances			Review of proposed Conservancy Districts	Introduction and propagation of exotic species					
Public access to agency records & meetings									
Other environmental review procedures									

November 5, 2001

To: Laurie Rounds

From: Herbert P. Read, President  
Porter County Chapter, Izaak Walton League of America  
1453 North Tremont Road, Chesterton, IN 46304

Re: Indiana's Lake Michigan Coastal Program

This written communication is intended to clarify and enlarge upon my comments made at the public meeting held in Portage, Indiana October 4, 2001 on the Coastal Program.

The Izaak Walton League of America is a nationwide conservation "grass roots" organization, founded in 1922, with state divisions and local chapters. The Porter County Chapter was founded in 1959, and is nonpartisan, not-for-profit, incorporated in the State of Indiana and classified as 501 (C) (3). We have ten regularly scheduled meetings a year with environmentally oriented programs to educate our members. The public is also invited to attend these programs.

We also send representatives to the state and national League meetings and several of our members also serve on the League's state and national committees. Our chapter is financed entirely by membership dues, donations and interest from CDs. We were active in the establishment of the Indiana Dunes National Lakeshore and its subsequent enlargement. We have also been supporters of the Porter County Park System. In fact, it was one of our late members who donated the land for Porter County's first county park.

We regard open space protection as a high priority for Porter County and preservation of shorelines to be a critical part of natural resource management. In addition to our yearly activities, we own about six acres of duneland which will ultimately be acquired by the National Park

Service. We also own wetlands and wooded acres which we intend to preserve.

We fully support the Indiana Lake Michigan Coastal Program. We further believe that with our chapter's 42-year record of natural resource protection that we have earned the right to be a "stakeholder" in the proposed program. We have demonstrated our willingness to work with our county officials, particularly the County Park Board in furthering a variety of environmental objectives.

We also support the inclusion of the shorelines of the rivers and streams which are tributary to Lake Michigan. The environmental integrity of both the Lake and the tributary waterways are interdependent.

Another organization which deserves recognition for its outstanding environmental contributions is the Coffee Creek Watershed Conservancy, which owns about 175 acres along both banks of Coffee Creek, the waters of which ultimately drain into Lake Michigan.

We regard the Indiana Lake Michigan Coastal Program as a great opportunity to improve the life of the people living in Northwest Indiana.

**WRITTEN COMMENT #33:** Herbert P. Read, President, Porter County Chapter, Izaak Walton League of America  
Nov. 7, 2001 (letter postmarked Nov. 5, 2001)

**Response to Comments:**

Thank you for your comments. No written change required.

1602 Michigan Avenue  
LaPorte, Indiana 46350-5214  
November 3, 2001

Laurie Rounds, Program Manager  
Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street, Room W264  
Indianapolis, Indiana 46204

Dear Ms Rounds:

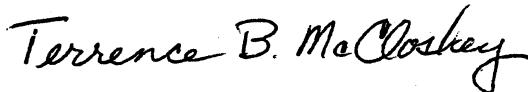
We have reviewed the Lake Michigan Coastal Program document and draft environmental impact statement. We support Indiana's participation in the federal Coastal Zone Management Program, although we continue to believe that the Valparaiso and LaPorte lakes should be included in the program boundaries. It makes as much sense to include them as it does to include Hart Ditch and the portion of the Little Calumet River that now are artificially drained to the Illinois River system. The lakes were included in the U.S. Environmental Protection Agency's Advanced Identification of Wetlands (ADID) study of the Lake Michigan Drainage of Lake, Porter, and LaPorte Counties, and they should be included in the LMCP since they are hydrologically connected to the Great Lakes Basin through groundwater and because their water quality and aquatic habitat can benefit from being in the program.

The current proposal is based on existing laws and regulations and there is no need for additional laws and regulations. The goal of developing partnerships with local agencies and organizations fits well with the increasing number of partnerships in Northwest Indiana working in cooperation to protect and enhance our coastal resources and to improve our quality of life. We believe that the objections that were raised concerning the CZM program in 1995 have been adequately addressed – it is not “zoning” program and will not take away private property.

The program will also enhance the protection of important historic and cultural resources in the coastal area. In addition to protection, CZM promotes appropriate economic development, such as tourism, in the coastal area. This is vital to the future of Northwest Indiana as our economy diversifies.

We await full approval of the program and look forward to implementation of Indiana's Lake Michigan Coastal Program.

Sincerely,



Terrence B. McCloskey

**WRITTEN COMMENT #34:** Elizabeth and Terrence McCloskey  
(letter postmarked Nov. 5, 2001)  
Nov. 8, 2001

**Response to Comments:**

1. Comment concerning inclusion of Valparaiso and LaPorte lakes.

Thank you for your comments. No written change required.

The inland boundary for the LMCP was based on surface water drainage to Indiana's portion of Lake Michigan. The diverted segments of the Grand Calumet River and Little Calumet River historically drained through surface waters into Lake Michigan. Today, these river segments still have a direct and substantial impact on the quality of Lake Michigan. Although efforts were made to divert all surface water flow of these river segments from the Lake Michigan drainage basin, water flows have been documented in both directions depending on several environmental conditions. In addition to variable water flows, movement of aquatic species has been documented from these river segments into the remaining portions of the rivers.

The lakes near the city of LaPorte are not within the current Lake Michigan surface water drainage basin, nor is it likely that they were historically part of the drainage basin. There is less known about the historical surface water flow of the all the lakes near the city of Valparaiso. Although these lakes are connected to the Lake Michigan basin through ground water, the current surface water flow is towards the Kankakee watershed. The limited resources available to the LMCP necessitates that the program be restricted to those areas with significant effects on the watershed of the coastal region. Therefore, although the Valparaiso and LaPorte Lakes are important natural resources, they were not included in the LMCP.

1453 North Tremont Road  
Chesterton, IN 46304  
November 5, 2001

Ms. Laurie Rounds, Program Manager  
Attn:Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street, Room W 264  
Indianapolis, IN 46204

Dear Ms. Rounds:

As stated previously in public and at this year's public meetings, I strongly support the Indiana Lake Michigan Coastal Program. I have attended the public meeting held in Portage, Indiana earlier this summer and the information session held at the Indiana Dunes State Park in October. I have also seen how this program has changed and improved from two previous attempts to establish a program to protect and managed Indiana's priceless Lake Michigan coastal resources.

I appreciate the fact that the current proposal is based on existing Indiana laws and regulations, which means that there is no need for additional laws and regulations to be enacted. It also builds upon our region's existing partnerships and coalitions to protect and enhance our coastal resources.

For the benefit of the Northwest Indiana environment and its economy, I believe it is both desirable from a resource protection standpoint and imperative from an economic standpoint for Indiana to move forward with this program. In my opinion, it is also desirable that all the program staff be based in Northwest Indiana for administrative efficiency and for easy access to the public.

We believe that this program offers the possibility of restoration of damaged coastal resources, rehabilitation of legacy sites, improved access to our invaluable Lake Michigan shoreline, resulting in an improved quality of life.

Sincerely,

*Charlotte J. Read*

Charlotte J. Read

**WRITTEN COMMENT #35:** Charlotte J. Read  
(letter postmarked Nov. 5, 2001)  
Nov. 8, 2001

**Response to Comments:**

Thank you for your comments. No written change required.



November 1, 2001

Laurie Rounds, Program Manager  
Lake Michigan Coastal Program Comments  
Indiana Department of Natural Resources  
402 W. Washington St., Room W264  
Indianapolis, IN 46204

Dear Ms. Rounds:

I am writing to express the Hoosier Environmental Council's (HEC) support of Indiana's Lake Michigan Coastal Program. The Lake Michigan Shoreline in Indiana is a unique and rare ecosystem and deserves the special attention of the state. Furthermore, Indiana's participation in the federal Coastal Zone Management Program would provide much-needed capital to manage our coastal resources.

I am particularly supportive of the fact that the Lake Michigan Coastal Program incorporates a watershed approach that will harness the resources of federal, state and local government as well as private citizens and individuals. There is a growing number of organizations in Northwest Indiana that are interested in protecting the coastal area, and it makes sense to involve all stakeholders in the process.

The program will also enhance the protection of important historic and cultural resources in the coastal area. In addition to protection, CZM promotes appropriate economic development, such as tourism, in the coastal area. This is vital to the future of Northwest Indiana as its economy diversifies.

HEC awaits full approval of the program and looks forward to implementation of Indiana's Lake Michigan Coastal Program.

Sincerely,

Andi Wininger  
Watershed Specialist  
Hoosier Environmental Council

**WRITTEN COMMENT #36:** Andi Winninger, Watershed Specialist, Hoosier Environmental Council  
Nov. 8, 2001

**Response to Comments:**

Thank you for your comments. No written change required.



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**LaPorte County Soil and Water Conservation District**  
100 Legacy Plaza W. - LaPorte, IN 46350-5254 - Phone (219) 362-6633

November 6, 2001

Laurie Rounds, Program Manager  
Lake Michigan Coastal Program  
Indiana Department of Natural Resources  
402 W. Washington Street, Room W264  
Indianapolis, Indiana 46204

Dear Ms. Rounds,

The LaPorte County Soil and Water Conservation District is a legal subdivision of state government and is responsible for leadership in the conservation of soil, water, and related natural resources. The district seeks to provide for the understanding, use, conservation, development, and improvement of all natural resources. In doing so, resources can better serve more people now and in the future, the county economy will be strengthened and quality of life improved.

The LaPorte Soil and Water Conservation District recognizes the importance of the Lake Michigan watershed and is in full support of the efforts of the Lake Michigan Coastal Program. We are more than willing to assist with planning or implementing any future proposals.

Sincerely,

John Coulter, Chairman  
Board of Supervisors

**WRITTEN COMMENT #37:** John Coulter, Chairman, Board of Supervisors, LaPorte County Soil and Water Conservation District  
Nov. 8, 2001

**Response to Comments:**

Thank you for your comments. No written change required.



# United States Department of the Interior

OFFICE OF THE SECRETARY  
Washington, D.C. 20240

In Reply Refer To:  
ER 01/874

NOV 5 2001

Mr. John King  
Chief, Coastal Programs Division  
National Oceanic and Atmospheric Administration  
SSMC4, Room 11537  
1305 East-West Highway  
Silver Spring, Maryland 20910

Dear Mr. King:

As requested by the National Oceanic and Atmospheric Administration (NOAA) and the Indiana Department of Natural Resources, the U.S. Department of the Interior has reviewed the September 2001 Program Document and Draft Environmental Impact Statement (EIS) (combined document) for the Indiana Lake Michigan Coastal Program (LMCP), Lake, Porter, and LaPorte Counties. We offer the following comments and recommendations for your consideration.

## GENERAL COMMENTS

This Draft EIS describes plans of the State of Indiana to develop the LMCP, which would qualify them for Federal funding through Section 306 of the Coastal Zone Management Act. The Draft EIS lacks land-use, water-quality, water-quantity, shoreline change, and lake hydrodynamic information, which are essential to the Draft EIS.

Part II, Chapter 2 (**Current Land Uses**) discusses the environment and current land uses in the coastal area, including various environmental perturbations. The Indiana Harbor Ship Canal in East Chicago, Lake County, has long been polluted with petroleum products, a situation that continues to this day. However, the only mention of problems associated with petroleum products is the acknowledgment that 9 to 10 million or more gallons of oil are floating on groundwater under the BP-Amoco refinery in Whiting but that this product is confined to the BP-Amoco property. Although BP-Amoco has been working to contain this underground pollution and recover the oil, this is not the only source of petroleum products floating on the groundwater and/or leaking to surface water, particularly in the Indiana Harbor Ship Canal. Petroleum products are leaking into the surface water through bulkheads along the main Canal and its Lake George Branch from properties where other refineries were previously located. This oil is a major concern to biologists because of its effects on avian wildlife and the species that prey upon

them, such as the peregrine falcon, a pair of which has nested along the Canal since 1989. Information on the oil problem in the Ship Canal can be found in the U.S. Fish and Wildlife Service's (FWS) May 21, 1996, Biological Opinion regarding the effects of the Indiana Harbor and Ship Canal maintenance dredging on the peregrine falcon and in the September 16, 1996, Final Fish and Wildlife Coordination Act Report on the dredging project. Both documents are available from the FWS's Bloomington, Indiana, Ecological Services Field Office.

Part III (page 475) of the combined document lists the current federally threatened or endangered species found within the Indiana Lake Michigan coastal zone. A candidate species, the Eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*), which is found in Porter and LaPorte Counties within the coastal zone, should be included on the list. Candidate species are those for which sufficient information on their biological status exists to warrant listing but for which listing has not yet occurred. The last sentence in the last paragraph on page 475 should be amended to indicate that the designated critical habitat for the endangered piping plover also includes the beach of the Indiana Dunes State Park.

The combined document contains only one sentence relating to consideration of the Endangered Species Act of 1973 (ESA), as amended, in the Coastal Zone Management (CZM) program. The response (Part II, Chapter 15) to the Department's letter of August 13, 2001, on the scoping document indicates that "... the DNR and NOAA will coordinate any projects or grant awards for the LMCP that might require consideration under the ESA." We believe that approval of the LMCP, as well as the awarding of funds under Sections 306 and 309 of the CZM Act, are actions that may be subject to the requirements of the ESA. Accordingly, the FWS will be contacting NOAA to discuss the need for further consultation to ensure that the requirements of section 7(a)(2) of the ESA are fully met.

## **SPECIFIC COMMENTS**

**Part II, Chapter 2, Page 45: Indiana's Lake Michigan Coastal Region, Subsection Current Land Uses:** This section briefly describes current land use. A land-use map of the LMCP area would provide essential, synoptic information to evaluate the proposed LMCP and to formulate future plans and projects. A land-use map of the LMCP area should be included in the Draft EIS.

**Part II, Chapter 5, Page 116: Existing Management Authorities, Section 5-3 Water Quality:** The Draft EIS thoroughly discusses water quality regulations that are in place in the LMCP area but does not provide any actual water quality data and analysis. Without this basic water-quality information, it is not possible to know current environmental conditions, the effectiveness of current environmental regulations, or possible impacts of the proposed LMCP. The Draft EIS should include a summary of current water quality conditions of rivers, inland lakes, and other water bodies in the nearshore zone of Lake Michigan. The Draft EIS should also include graphs that show the change over time of water quality indicators, such as nitrogen, phosphorous, total dissolved solids, fecal coliform, and fecal streptococcus.

**Part II, Chapter 5, Page 147 : Existing Management Authorities, Section 5-4 Water**

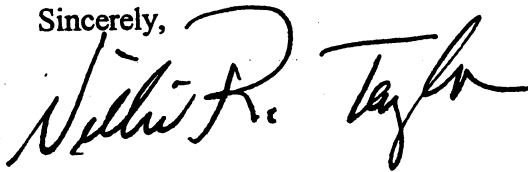
**Quantity:** This section discusses past and present water resource management but does not provide any surface or groundwater data and analysis. Without this basic hydrologic information, it is not possible to evaluate current environmental conditions, the effectiveness of current water resource management in promoting environmental health of Lake Michigan, or possible impacts of the proposed LMCP. The Draft EIS should include a summary of current surface and groundwater conditions; this summary should contain discharge hydrographs of major rivers, stage hydrographs of Lake Michigan and other major lakes, and basic groundwater information (principal recharge and discharge areas). Furthermore, the Draft EIS should include statistics that summarize consumption and use of surface and groundwater, identify major sources of surface and groundwater for consumption and use, and estimate future trends in consumption and use of water.

**Part II, Chapter 10, Page 372-373: Shoreline Erosion and Mitigation Planning, Figures 10-4 and 10-5:** The maps and explanations do not distinguish among the four categories of shoreline types -- armored, high dune and bluff, intermediate dune and bluff, and low dune and bluff. The maps and explanations should be modified by using different patterns to distinguish these different shoreline types. The same type of problem applies to figure 10-2 on Page 370.

**Part II, Chapter 10, Page 377: Shoreline Erosion and Mitigation Planning, Subsection Assessment of the Effects of Shoreline Erosion:** This section briefly discusses shoreline change and erosion. A map showing shoreline change over time is essential for evaluating the proposed LMCP and formulating future plans and projects. A shoreline change map of the LMCP area should be included in the Draft EIS. The Draft EIS should also include data and analysis of the wave and current regime of Lake Michigan. This discussion should address the strength of waves and currents (wave height and frequency, current velocity) during major storm events and the impact of these storm events on the Lake Michigan shoreline. The information is essential to evaluate current coastal protection and enhancement measures and the possible impacts of the proposed LMCP.

Thank you for the opportunity to review and comment on this Draft EIS. We appreciate the opportunity to provide these comments. Should you have any questions, please contact Ken Havran in the Office of Environmental Policy and Compliance at (202) 208-7116.

Sincerely,

A handwritten signature in black ink, appearing to read "Willie R. Taylor". The signature is fluid and cursive, with the first name "Willie" and last name "Taylor" clearly distinguishable.

Willie R. Taylor  
Director  
Office of Environmental Policy  
and Compliance

**WRITTEN COMMENT #38:** Willie R. Taylor, Director, Office of Environmental Policy and Compliance,  
Department of Interior  
Nov. 9, 2001

**Response to Comments:**

1. Comment regarding petroleum products floating on the groundwater and/or leading to surface water, particularly in the Indiana Harbor Ship Canal.

Thank you for your comments. Change noted.

The LMCP recognizes the hazards to fish and wildlife created by floating and leaking petroleum products in northwest Indiana. Language reflecting that hazard was added to Chapter 2 of the P/FEIS in the section "Coastal Economy".

2. Comment regarding candidate species under the Endangered Species Act and piping plover critical habitat area.

Thank you for your comments. Change noted.

Identification of the Eastern massasauga rattlesnake as a candidate species under the Endangered Species Act was added in Section III of the P/FEIS under "Wildlife and Terrestrial Habitat". In addition, a detailed description of the piping plover critical habitat area in Indiana was added to the same section, as well as to Chapter 8: Coastal Areas of Significance, under the section, "Areas of high natural productivity or essential habitat for living resources, including fish, wildlife, endangered species, and the various trophic levels in the food web critical to their well-being".

3. Comment regarding requirements of section 7(a)(2) of the Endangered Species Act and approval of the LMCP.

The NOAA and DNR worked with the Indiana Bloomington Field Office for the FWS to discuss the requirement of section 7 (a)(2) of the Endangered Species Act. Based on correspondence date January 25, 2002 from the Indiana Field Supervisor, the FWS concurs that NOAA approval of the LMCP is not likely to adversely affect federally listed species or designated critical habitat based on the environmental review process detailed in the program document and the commitment of the NOAA and DNR to meet the following guidelines:

1. If a 306(A) project(s) requires the removal of trees that are greater than five (5) inches diameter-at-breast height (dbh), they will be cut down/cleared outside of the Indiana bat (*Myotis sodalis*) maternity season (i.e. no tree cutting will occur from April 15 through September 15). If a 306(A) project requires an exception to this condition, the Department of Natural Resources will initiate early consultation with the U.S. Fish and Wildlife Service, Bloomington Field Station.
2. If an eligible project(s) occurs within the 7.9 km of Lake Michigan shoreline designated as critical habitat for the endangered piping plover (*Charadrius melodus*) in Porter County (5.0 km within the Indiana Dunes State Park where the primary constituent elements are present and 2.9 km within the Indiana Dunes National Lakeshore), the Department of Natural Resources will enter into early consultation with the U.S. Fish and Wildlife Service, Bloomington Field Station. Any project



determined by the Department of Natural Resources or the U.S. Fish and Wildlife Service to have adverse effects to the critical habitat will not be funded.

4. Comment regarding current land use.

Thank you for your comments. Change noted.

A map depicting the latest available land use (1990) for the coastal region was added to Chapter 2: Indiana's Lake Michigan Coastal Region.

5. Comment regarding water quality data and analysis.

Thank you for your comments. Change noted.

The purpose of the P/DEIS was to document how Indiana meets the requirements of the CZMA and to detail the organization and purpose of the program. Similar water quality data and analysis discussed in this comment has been conducted by the State of Indiana; however, it was not included in the P/DEIS because it is not relevant to the document's purpose. Chapter 5: Existing Management Authorities does detail state water quality standards, based on the state's responsibilities to implement the federal Clean Water Act, Safe Drinking Water Act, and the Great Lakes Water Quality Guidance of the Great Lakes Initiative, which the State of Indiana utilizes to protect state waters.

The purpose of Chapter 5 is to detail Indiana's management authorities for specific managed activities, and does not describe environmental quality. Other sections of the P/DEIS discussed water quality and the current conditions of water bodies in the coastal region. The P/DEIS and P/FEIS include the current condition of major water bodies in the coastal region in Part III, Section C under "Water Quality". This section also lists the portions of rivers listed as impaired for the 303(d) Report. This section identifies 303(d) impaired water bodies, locations of fish consumption advisories (all tributaries and Indiana's portion of Lake Michigan), the location of Indiana's Area of Concern as identified by the International Joint Commission, the listing of this watershed as a priority watershed under the EPA Unified Watershed Assessment program, groundwater quality, and *E. coli* level exceedances on the shoreline.

Additions to the P/FEIS were made in Part III, "Environmental Quality". Lakes on the 303(d) list and lakes with fish consumption advisories were added to this section.

6. Comment regarding water quantity data and analysis.

Thank you for your comments. No written change required.

Similar water quantity data and analysis discussed in this comment has been conducted by the State of Indiana; however, it was not included in the P/DEIS because it is not relevant to the document's purpose.

The P/DEIS did discuss the water usage in coastal region in Part III, Section C on page 478. This section also lists major types and the number of registered significant water withdrawal facilities in the coastal region. In addition, the P/DEIS discussed ground water and recharge areas in Chapter 8 page 338. As noted in the chapter, the LMCP will develop maps of the hydrogeologic terrains that are most likely to serve as recharge areas utilizing the work in the *Atlas of Hydrogeologic Terrains and Settings of Indiana*; however the inclusion of these maps is not relevant to the purpose of the P/DEIS.

7. Comment regarding shoreline erosion maps in Chapter 10.

Thank you for your comment. No written change required.

A printing error occurred on the shoreline maps on pages 370 to 373 of the P/DEIS. Although, correction sheets were sent to everyone who was mailed a copy of the P/DEIS, it appears from your comment that you did not receive a copy. We regret that you did not receive those correction sheets. The printing error has been corrected in the P/FEIS.

8. Comment regarding shoreline change and erosion map, data, and analysis.

Thank you for your comment. Change noted.

Similar shoreline and erosion data and analysis discussed in this comment has been conducted by the State of Indiana; however, it was not originally included in the P/DEIS because it is not relevant to the document's purpose. Chapter 10 of the program document provides an analysis of those areas of Indiana's shoreline that are subject to high erosion, dune bluff height classification for each reach, and the method of shoreline protection for each reach.

To address several of the points in this comment, a new appendix was added to the document to explain coastal processes along Indiana's Lake Michigan shoreline. Appendix G: Coastal Processes Affecting Indiana's Lake Michigan Shoreline provides information on: the wave and current regimes of Lake Michigan, wave climatology, storms and Lake Michigan, coastal protection and structures, and shoreline change over time.

A sentence was added to Chapter 10, in the section "Assessment of the Effects of Shoreline Erosion" to address the comment concerning methods of evaluating shoreline projects. The added sentence is as follows: "The Coastal Situation Report contains a complete listing of sediment transport volume, wave refraction, cumulative dune bluff recession and accretion for all sections of Indiana's shoreline. The DNR Lake Michigan Specialist utilizes this information to evaluate the impacts of existing coastal structures and the potential impacts of proposed coastal structures." A footnote reference provides a citation for the Coastal Situation Report.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 5**  
**77 WEST JACKSON BOULEVARD**  
**CHICAGO, IL 60604-3590**

REPLY TO THE ATTENTION OF.

NOV 05 2001

B-19J

Mr. John King, Chief  
Coastal Programs Division  
National Oceanic and Atmospheric Administration  
SSMC4, Room 11537  
1305 East-West Highway  
Silver Spring, MD 20910

**Subject: Comments on the Draft Environmental Impact Statement for the Indiana Lake Michigan Coastal Program**

Dear Mr. King:

The U.S. Environmental Protection Agency Region 5 (U.S. EPA) has reviewed the joint National Oceanic and Atmospheric Administration (NOAA)/Indiana Department of Natural Resources Draft Environmental Impact Statement (DEIS) for the **Indiana Lake Michigan Coastal Program in Lake, Porter, and La Porte Counties, IN**. Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. The CEQ's number for this DEIS is 010349.

The proposed action in the DEIS, Alternative 1, is approval of the Indiana Lake Michigan Coastal Program (LMCP), which was designed to meet the requirements of the Coastal Zone Management Act (CZMA) of 1972. The CZMA requires states to evaluate coastal resources needing protection or management; create and refine management policies that are specific, comprehensive, and enforceable; determine specific uses and areas subject to the coastal program; identifies inland and seaward areas subject to the program; considers national interest in siting larger-than-local facilities; and has enough legal authority and infrastructure to implement and enforce the program. NOAA's approval of the program would allow Indiana to receive federal grant assistance for program implementation, and would require that federal actions in the coastal zone be consistent with the program. Grants would be for feasibility studies and engineering reports; protection and preservation of significant coastal resources; management of development to prevent losses in flood hazard and erosion areas; setting priorities for diverse uses; increasing public access, improving the efficiency of governmental decision making; redevelopment of waterfronts and ports; and, other purposes approved by the

Director. Alternative 2, the No-Action Alternative, would deny federal approval of the program. Alternative 3 would delay approval pending Indiana's improvement of its proposal (i.e., development of an organizational structure capable of implementing the coastal program.)

Impacts of the DEIS's proposed action, Alternative 1, are considered to be beneficial. The benefits are described as follows:

- ❖ Improved regulation and enforcement,
- ❖ Balanced coastal community development,
- ❖ Improved economic development for water dependent uses,
- ❖ Better natural resource and hazardous areas management,
- ❖ Improved coordination between governments and with the public,
- ❖ Added consistency of federal projects coastal program through Indiana's review, and
- ❖ Consideration of national interests in decision making.

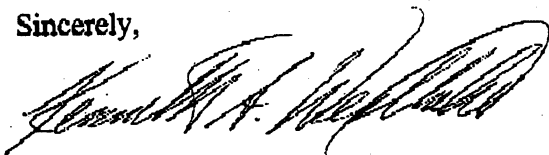
Having reviewed the DEIS, U.S. EPA rates the document **LO, Lack of Objections**. Please see the enclosure for a description of U.S. EPA's ratings. An LO rating indicates that our review has not identified any potential environmental impacts that require substantive changes to the preferred alternative. Overall we believe that the program and DEIS are positive steps in the long-term management of southern Lake Michigan's coastal resources. U.S. EPA encourages NOAA to place an LMCP emphasis on creating policies that guide proactive or adaptive management responses to contaminant issues affecting water quality; control of invasive species; and to trends in public health threats (e.g., beach closures and consumption of contaminated fish. In keeping with the CEQ guidance in "NEPA's 40 Most Asked Questions," we also encourage NOAA to publically circulate potentially controversial environmental assessments that tier off of this EIS.

We also have the following, mainly editorial, comments on the Coastal Program document and DEIS:

- ❖ Page 123, 136, and 484: The final EIS (FEIS) should mention the requirements of the Beaches Environmental Assessment and Coastal Act of 2000.
- ❖ Page 126: NOAA should highlight the need to coordinate with the Lake Michigan Lakewide Management Plan.
- ❖ Page 154: Diversion of Water should be updated to reflect new Water Diversion Policy proposals developed by the Great Lakes Commission.
- ❖ Page 172: There should be a mention of the Supreme Court ruling regarding isolated wetlands, emphasizing the need for the state to review their regulations and authorities regarding this decision.
- ❖ Page 484, first paragraph, line 3: It was the International Joint commission that designated 43 areas of concern in the Great Lakes Basin.

We appreciate the opportunity to review the DEIS. Please send only two copies of the final EIS to this office at the same time it is officially filed with our Washington, D.C. Office. If you have any questions, please call Rosalyn Johnson of my staff at (312) 353-5692, or send email to [johnson.rosalyn@epa.gov](mailto:johnson.rosalyn@epa.gov).

Sincerely,



Kenneth A. Westlake  
Chief, Environmental Planning and Evaluation Branch  
Office of Strategic Environmental Analysis

Enclosure (1): Summary of Rating Definitions and Followup Action

## SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION\*

### Environmental Impact of the Action

#### LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

#### EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

#### EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

#### EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS state, this proposal will be recommended for referral to the CEQ.

### Adequacy of the Impact Statement

#### Category 1-Adequate

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

#### Category 2-Insufficient Information

The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

#### Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment

**WRITTEN COMMENT #39:** Kenneth A. Westlake, Chief, Environmental Planning and Evaluation Branch, Office of Strategic Environmental analysis, U.S. Environmental Protection Agency  
Nov. 19, 2001

**Response to Comments:**

1. Comment regarding requirements of the Beaches Environmental Assessment and Coastal Act of 2000.

Thank you for your comment. Change noted.

References to the Beaches Environmental Assessment and Coastal Act of 2000 were added to the P/FEIS in the areas indicated.

2. Comment regarding coordination with the Lake Michigan Lakewide Management Plan.

Thank you for your comment. Change noted.

The LMCP recognizes the importance of coordination with the Lake Michigan Lakewide Management Plan. A statement reflecting the need for coordination was added to the P/FEIS in the area indicated.

3. Comment regarding new Water Diversion Policy of the Council of Great Lakes Governors, developed by the Great Lakes Commission.

Thank you for your comment. Change noted.

An addition to Chapter 5 Section 4: "Water Quantity" under the section, "Divisions of Water", was made that discusses the June 18, 2001 supplemental agreement to the Great Lakes Charter concerning water diversion signed by the Council of Great Lakes Governors.

4. Comment regarding Supreme Court ruling on isolated wetlands and need for state review of regulations and authorities regarding this decision.

Thank you for your comment. Change noted.

Additional text was added to Chapter 5 Section 5 "Natural Areas, Fisheries, Wildlife, and Native and Exotic Species" under the section "Filling, Dredging, and Alteration of Wetlands and Special Aquatic Sites" that discusses the Supreme Court ruling on isolated wetlands. Also included is a description of Indiana's response to the decision and plans to develop a state permit system for water bodies affected by this decision.

5. Comment regarding correction to page 484, first paragraph, line 3.

Thank you for your comment. Change noted.

The line was corrected to read: "The International Joint Commission has established 43 Areas of Concern for the Great Lakes basin in the United States and Canada."



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
OFFICE OF OCEANIC AND ATMOSPHERIC RESEARCH  
1315 East-West Highway  
Silver Spring, Maryland 20910

NOV 19 2001



MEMORANDUM FOR: John King  
Acting Chief, Coastal Programs Division

FROM: David L. Evans *L/E*

SUBJECT: Review of the Indiana Lake Michigan Coastal Program  
Document/Draft Environmental Impact Statement

Thank you for the opportunity to review the Indiana Lake Michigan Coastal Program Document/Draft Environmental Impact Statement.

The result of our review is that NOAA Research has no comments on the proposed Indiana Lake Michigan Coastal Program Document/Draft Environmental Impact Statement.

THE ASSISTANT ADMINISTRATOR





**WRITTEN COMMENT #40:** David L. Evans, NOAA Research, U.S. Department of Commerce  
Nov. 28, 2001

**Response to Comments:**

Thank you for your comments. No written change required.

## **RESPONSE TO ORAL COMMENTS: OCTOBER 1, 2001 PUBLIC HEARING**

### **ORAL COMMENT #1: Bill Theis, Pines Township Trustee**

#### **Summary of testimony:**

I appeared at your June meetings and had a very large stack of responses that was opposed to Coastal Zone Management. Those are not included despite the promises by everybody in this room. I also turned in resolutions by various government organizations including the Commissioners of LaPorte County and Porter County. The response in the book was, well, that was comment on something different. No. It was comment on Coastal Zone Management. You can call it what you want. Those people oppose Coastal Zone Management. You can call it Lake Michigan Protection and this and that. The bottom line is those letters are opposing Coastal Zone Management. This lays the groundwork to institute Coastal Zone Management. I prepared a statement for tonight. Why bother. Broken promises, you're not going to include any opposition anyway. When you did it in '95, you didn't put them in. There was a second resolution asked by Beverly Shores on this June document opposing. That's not included in there. If you're just going to bury any letters of opposition, why even bother. I'm not going to waste my time with this group.

#### **Response to Comments:**

Thank you for your comments. No written change required.

The testimony provided by Mr. Theis at the June 26, 2001 public meeting on the LMCP Scoping Document 2001 was included on page 438 of the Lake Michigan Coastal Program and Draft Environmental Impact Statement (P/DEIS). The testimony included both Mr. Theis statements and the letter read as part of public comment. In addition, written comments submitted by Mr. Theis were included on page 454 of the P/DEIS. The program development history is described in Chapter 6: Program Development and Coordination from pages 317 to 318, in which the opposition discussed by Mr. Theis is described. The DNR did not receive an opposition resolution from Beverly Shores on the June 2001 Scoping Document.

Copies of all the petition letters submitted by Mr. Theis were not included as comments on the June 2001 Scoping Document for the Indiana LMCP. As noted in the P/DEIS, these letters were part of a previous effort and not within the scope of this public input process. However, Mr. Theis' comments were considered and, as stated on page 454 of the P/DEIS, upon review of the material submitted it was noted that many of the written statements did not support a coastal zone management program when they were written (approximately in 1995).

## **ORAL COMMENT #2: Tim Morgan, Superintendent, LaPorte County Parks Department**

### **Summary of testimony:**

Tim. LaPorte County Parks Department Representative Superintendent. I just have a question about the types maybe for NOAA. The types of grants that you've seen awarded throughout the states that you administer to we're very interested in any and all types of grants, the things that you talked about, the things that I've talked to Ms. Kintzele about. They all seem like great opportunities. We've been able to build in our community most of the parks through grants and cost sharing and that type of stuff, and we feel very fortunate and would support anything that would benefit the citizens of LaPorte to improve facilities and natural resources, etc. I just want to go on the record on part of the parks department for that. We do have four county park properties that lay within the watershed. We have Minkies property, which is just south of Winter Green Woods. The newly acquired property that our park foundation holds I guess is part close to the east branch of Trail Creek. We also have Creek Ridge County Park we lease from the State of Indiana. That's the west branch Trail Creek. We have Red Mill property and County Park combined now which has host to Little Calumet headwaters and Nature Preserve, which is part of Little Calumet River, and we also have Minkies property which is part the Little Galena River. It runs throughout that property. So we're very interested in Coastal Management as well as what the grant opportunities are, and how we can be a part and play a role, either myself or my board, in helping shape the grant process and what goes into the criteria and how that's going to all play out. I guess in specific Red Mill Park property has an aging dam, that's a problem not only in Indiana but throughout most of the states. Is there money available that we might be able to direct problems of an aging dam repair work, etc. that helps the watershed? Indirectly, it helps recreation and the impoundment is still there. Fishing is provided, but it also helps the watershed as far as the DNR is concerned that maintains the water level that's present. I mean its both sides of the coin in this case this property

### **Response to Comments:**

Thank you for your comments. No written change required.

The Coastal Grants Program will accept applications for projects that meet the following objectives, detailed in Chapter 7 of the program document.

- The preservation or restoration of specific areas of the Coastal Program Area that are identified in the LMCP for their conservation or ecological values.
- The preservation or restoration of areas that contain one or more coastal resources of state or national significance.
- The prevention, reduction or remediation of nonpoint source pollution that affects coastal natural resources.
- The preservation or restoration of specific areas of the Coastal Program Area that are identified in the LMCP for their recreational, historical, or esthetic values.
- The redevelopment of deteriorating and underutilized urban waterfronts and ports that are designated as Areas of Particular Concern in the LMCP.
- The provision of access to public beaches and other public coastal areas and to coastal waters.

Chapter 8: Coastal Areas of Significance identifies coastal areas of significance for their conservation, ecological, recreational, historical, and esthetic values; in addition, urban waterfronts and ports are discussed for their redevelopment potential.

## **RESPONSE TO ORAL COMMENTS: OCTOBER 3, 2001 PUBLIC HEARING**

### **ORAL COMMENT #1: John Henoff, Perch America**

#### **Summary of testimony:**

I'm John Henoff from Perch America. I see your Coastal Plan here. There's a grass that seems to be growing throughout this entire area. Maybe you see up and down the roads, ten to fifteen foot tall, see where a semi can plow into it. And it's spreading up and down through all of the wetlands. It covered up all of the natural cattails and spreading throughout. I spoke to the DNR about this before I don't know why this grass isn't terminated or a study done on how to get rid of it. I don't know if people notice it. I notice it everywhere. You see the seed heads on it. It covers up lakes. It seems to be growing up and down all state roads. It's an exotic grass that doesn't belong here it's from China. And there needs to be something done about it. Because I grew up with cattails around and there's swamps that are just vastly disappearing. And with that the birds that were here are going to leave, the fish, the animals. So I'd like to see something done about it. Thank you.

#### **Response to Comment:**

Thank you for your comments. No written change required.

**ORAL COMMENT #2: Jay Allen Johnson, Purdue Calumet**

**Summary of testimony:**

I'm Jay Allen Johnson and I'm with Purdue Calumet and I want to go on record as supporting the Advisory Task Force that was stated and with the caveat that, I think, is very important that Task Force be representative for people of the diverse background. I think that the Advisory Board tends to overlook that sometimes.

**Response to Comments:**

Thank you for your comments. No written change required.

The LMCP recognizes the importance of diversity of representatives for the stakeholders advisory group. This will be considered during the formation of the advisory group. Additionally, Indiana Civil Rights Laws state that it is policy of the State of Indiana to provide all its citizens equal opportunity and that it is unlawful to discriminate.

**ORAL COMMENT #3: Bob Porsch, DNR Division of Fish and Wildlife**

**Summary of testimony:**

My name is Bob Porsch. I'm with the Fish & Wildlife for the DNR. And I've been dealing with wildlife and habitat for the last twenty odd years of my career. And the common problem for accomplishing great tasks is a lack of funding. And I'm fully supportive of this program knowing full well that wildlife, wildlife habitat and our children years down the line will benefit from this grant.

**Response to Comment:**

Thank you for your comments. No written change required.

**ORAL COMMENT #4: Sandy O'Brien, Duneland Sierra Club**

**Summary of testimony:**

Hi, I'm Sandy O'Brien, a member of the Duneland Sierra Club. I wanted to have more time to study the document, but anyway on Page 35 you missed John Robinson's meeting of developmental discussions, you could add that in there. And the first comment he was talking about phragmites, that really tall grass that's taking over all of the wetlands and everything. And I know that it's bad. We should be working on it by not necessarily blitzing the air with herbicides, but working on it. And I would say that I'm firmly in support of the DNR joining a Coastal Management Program.

**Response to Comments:**

Thank you for your comments. No written change required.

**ORAL COMMENT #5:** Vollie Riskin, League of Women Voters, Calumet area.

Summary of testimony:

I'm Vollie Riskin and I'm from the League of Women's of the Calumet area. And I also represent the Inter-League group of women voters. That's a group of several different leagues of women voters around Lake Michigan. That is Wisconsin, Illinois, Indiana and Michigan. We support a Coastal Management Program and we want Indiana to participate with the other thirty-three states our territories to develop and participate in this program. And I'd like to know what group would apply and how would it go about it if they were--if this plan is approved and they want to get some of the \$900,000 that may be available to them.

Later Oral Comment:

Thank you for the public meeting and the openness to comments and questions. I appreciate the chance to comment. I want Indiana to participate in the LMCP.

**Response to Comments:**

Thank you for your comments. No written change required.

Eligible recipients of funds are state, local, area-wide, regional, or interstate agencies. Nonprofit organizations are eligible to apply for non-construction/non-acquisition projects as grantees. They may partner with a public entity to perform some or all of the eligible construction or acquisition projects. The Coastal Grants Program will hold an annual competitive application process during which eligible recipients will be able to apply for grant funds.



#### **ORAL COMMENT#6: Kimberly Jones, East Chicago City Planner**

##### **Summary of testimony:**

Good evening everyone. My name is Kimberly Jones and I am a resident of East Chicago and also East Chicago City Planner. And, I guess, I want to comment a little bit on this comment as far as the Stakeholders Advisory Group. What's the makeup of that Advisory Group? And what does it--who will it consist of? Is it local government, nonprofit organizations, state government? Who's a part of that group?

##### **Further Oral Comments:**

I'd like to go on record to say that we also support this Federal Program as well as some from municipalities looking at how we can if, you know, if we're awarded and we have this opportunity to be a part of this Federal Program, how the municipalities could work with this stakeholders group and the state in implementing some of the plans that have come out of this EIS into our overall community comprehensive language planning. We need to address those areas as well in our respective communities.

I also see that we need to include some of the industries that basically surround it by our lakefront and our shoreline. I wonder if any contact has been made with the municipalities to come to a meeting like this to find out about why they're not representing--finding out more about it if they would.

##### **Response to Comments:**

Comments noted. No written change required.

The DNR will form a stakeholders advisory group to provide input on the Coastal Grants Program. The membership of the advisory group will be representative geographically as well as representative of interests in the Coastal Program Area. The membership on the advisory group has not been determined yet by the state. However, public input on this issue will be considered and the stakeholders advisory group will be formed upon approval of the LMCP.

During the 2001 scoping process, the DNR met with several local agencies and municipalities to discuss the LMCP and gain their input on local participation and potential partnerships. Overall, these local agencies and municipalities indicated their interest in participating in the implementation of the LMCP. It was also indicated that partnerships with the LMCP could assist in their efforts to manage coastal resources including efforts for natural resources protection, recreation, revitalization, and economic enhancement. In addition, several local agencies have participated in public hearings and submitted comments on the P/DEIS.

## RESPONSE TO ORAL COMMENTS: OCTOBER 4, 2002 PUBLIC HEARING

### ORAL COMMENT #1: Herb Read, President, Porter County Izaak Walton League

#### Summary of testimony:

My name is Herb Read, I am president of the Porter County chapter of the Izaak Walton League. The Izaak Walton League is a nationwide conservation group that's been in existence since 1922. It has state divisions and local chapters and our current state president lives here in Portage and he is here in the audience. I am also vice president of a Coffee Creek Watershed Conservancy and I will explain in a few minutes how that might fit into the overall picture. First of all, I would say that I have had an opportunity to briefly review the draft environmental impact statement and read the comments and I'd like to mention a few minor typos, housekeeping matters. They spelled my name wrong, its R-e-a-d and they spelled Izaak wrong, it is I-z-a-a-k. Hopefully those are the only two I have found so far. As before I would say that our organization is solidly behind this program for the benefits that may improve our objectives and conservation. I particularly am pleased that emphasis was given to the river ways which drain the watershed because you can't keep a clean Lake Michigan shoreline unless you have clean tributaries and that is where we, and possibly the Coffee Creek Watershed Conservancy can contribute. We own, through the donation of a land developer, a piece in Chesterton approximately 175 acres along Coffee Creek. Coffee Creek in turn drains into the Little Calumet River, which in turn, of course, enters Lake Michigan by the Burns Ditch right out here next to us. Our Conservancy has a paid staff and we recently received a grant through the 319 program to prepare a study or a master plan for the entire Salt Creek Watershed, considerable size area, and this is a two-year program, so we are just into the first six months or so. We have had two public meetings, purpose of which is to prepare recommendations for the Coffee Creek Watershed and, of course Coffee Creek is within our watershed area that we are speaking about tonight, working through voluntary agreements with private landholders along the shoreline. We also anticipate that we will be able to use our lands as matching funds for an additional fund in which we hope to purchase additional shoreline—I should say river way shoreline along the area of either Salt Creek, Coffee Creek, or Little Calumet. Did I say the Salt Creek Watershed? This is Coffee Creek Watershed. Salt Creek also goes into this and there is another little tributary, Sand Creek, I am talking about Coffee Creek, although we may take advantage of our purchase ability in anyone of those creeks which feed into Lake Michigan. I would call attention to new legislation that was passed by the State. I think there is a brief mention of it in the Draft Environmental Impact Statement, which may offer the opportunity to develop brownfields, primarily in Lake County either for new industrial use and/or recreational use. If that gets funded, which I don't think it is at the moment, but if it does it offers an opportunity. Finally I must say that none of this will go any where unless its implemented and as I see the plan calls for a committee of what you call stakeholders and what they do will determine whether or not this is successful, at least from our point of view. I had some experience with committees that are set up for this, of course, the state, every town gets its representative, almost every industry gets its representative and usually there is one representative of the conservation community and he or she is always out voted. So I hope that when this is put into place that we get enough input that we can make our views known. If there is anything else in the way of comments after I read the whole draft environmental statement I'll send them in, thank you.

#### Later Oral Comments:

I'll pass if there is somebody who hasn't spoken. Point of clarification on some things, the staff of the Coffee Creek Watershed Conservancy is paid by an assessment made to the people who buy property in the development. That's not government funds. The staff of the Save the Dunes Council comes entirely from

membership dues and private donations and endowments, not one cent of government funds from any layer whatsoever. Now, most of the points that have been brought up by the STOP people, and they are all members of the STOP group, I guess, has been dealt with in the draft Environmental Impact Statement. All I have to do is read it. The difference between the current situation and the 1995 plan was it is discussed as a response in the draft Environmental Impact Statement, I read it. Now, they mentioned shoreline erosion. We do have, of course, shoreline erosion both natural causes and manmade causes. I think if--I have been trying to find a solution to the shoreline erosion problem for forty or fifty years and some of these people who are objecting to this program weren't around and I was just wondering where they were. I sure could have used their help when I was trying to lobby to get solutions to the problem. Um, the Corp of Engineers, by the way, have begun to learn some lessons from erosion along rivers, at least the Mississippi. If people are foolish enough to keep building hard structures in an area that repeatedly is subject to flooding or erosion and then they demand that the taxpayer bail them out each time, that's not a very sensible thing. So the Corp is now, in some cases, at least they find it is certainly cheaper to pay the people, buy the people out and move them to higher ground. Now, that doesn't have a direct association with the erosion along Lake Michigan, but if somebody does build too close to the lake and it is subject to repeated erosion, they shouldn't be there and I have--I don't feel sorry for them if their house gets washed away under those circumstances. Um, whenever reference to a petition drive at the last CZMA situation some years ago, well, a petition that obtained signatures is a misrepresentation that's limited value and I think you understand what that is. One of things that they tried to push all the time is that the government was going to go in and condemn their lands and not pay them for it. Sometimes they even made that claim, without compensation, I think I heard the term here. The environmental community has a very small paid staff no matter what organizations it is and they get paid about one tenth or one 100th of what the lobbyists for big industries get paid. That's the reality of it and yet they are doing it because they love the environment, they love our land and our water and they do it because they feel that it's worth the cause. The cause is worth trying to struggle along on small amounts of money. So as far as the environmentalists get paid, I say they don't get paid enough and as far as non-governmental organizations like the ones that have been mentioned, they are all registered with the state. Their books are open, their records are open, their financing is open. that's more than what STOP people can say. Thank you.

#### Later Oral Comments:

Thank you, Mr. Chairman. I won't say anything about how you recognize people who didn't even get up here. The only observation I would make here is that all this fussing and fuming about money are people who don't want the program any way. So they might recognize that, and Pauline, I would like to see this in the paper, the project, as I understand it, the project would originate from recommendations from people in this area any way. It would go before we--state stakeholders' committee for review whether it is consistent with the purpose of the act--To see if, again, whether the project is consistent with the purposes of the act and then NOAA with the same things. Now the only time one would have to choose if there are projects--more projects proposed than there is money available for. So if there is only one proposal and money for one proposal the choice, assuming that it meets the purposes and the law, it will be approved. It will be approved assuming the money is there and it doesn't violate the law; am I correct so far? Now, if, as often happens, there isn't enough money for the various proposals, and I think everybody--there will be a lot of people with a lot of good proposals, that's when somebody has to pick and choose. And I am concerned about it, too, but I don't know what any alternative is. The selection has to be ultimately in the hands of the elected officials of the county and the state. I don't know any other way that it can be done and I am willing to live with that. And I think the things that down state is basically interested in is picking and choosing, get it done up here and not come down and be a big squabble down there.

#### Response to comments:

Thank you for your comments. No written change required.

**ORAL COMMENT #2: Sharon Fee, STOP**

**Summary of testimony:**

I am Sharon Fee and I am a property owner and I am also a member of the STOP group, and STOP is Stop Taking Our Property. And I just want to make sure that on this advisory group that there are significant property owners that are sitting on this because they are environmentally conscious otherwise they wouldn't have this beautiful property the state is now looking at, the federal government was looking at ten years ago.

**Response to Comments:**

Thank you for your comments. No written change required.

The DNR will form a stakeholders advisory group to provide input on the Coastal Grants Program. The membership of the advisory group will be representative geographically as well as representative of interests in the Coastal Program Area. The DNR recognizes the importance of citizens and property owners in the coastal region. Although the specific process for nominations and selection has not been completed, the process will consider the many interests in the coastal region.

**ORAL COMMENT #3: unidentified speaker**

**Summary of testimony:**

I don't know if there is anybody else--is there anybody else here from Lake Station? Lake Station is having--is quite concerned. I live in Hobart and Hobart wants to put in a sewer system that's gonna drain right into this Deep River that will eventually go right into Lake Michigan, so they asked me to mention that. I don't know if they have probably contacted you or--here you're trying to clean up the lake and keep that nice and then a city adjoining is going to be putting a sewer right by the river there. Well, what do we do about it and what are the steps to be taken?

**Response to Comments:**

Thank you for your comments. No written change required.

The Indiana Department of Environmental Management is the agency charged with permitting wastewater treatment plant construction in Indiana. The LMCP does not alter the review process for specific projects.

#### **ORAL COMMENT #4: Dennis Showers**

##### **Summary of testimony:**

Sure, one comment, I know this was a hot item about five years ago and in glancing through this I make note of a paragraph in there that said there was public opposition and that--I don't remember exactly how it was worded that you were required to go back and renew that and somehow work in closer harmony with the local people, something like that. And I am just wondering is that what this is about? Has it been dressed up a little bit, has anything really changed? Why is it back again? What is different now than what we had in 1995? When--I think the final statement was, by the DNR that it was too much red tape and it was not going to be implemented so I guess I keep coming back to questions that I have, what's different today than we had in 1995?

##### **Later Oral Comments:**

One of my concerns is the funding and the comment that was made, the \$900,000 approximately will go to the DNR and then from there I guess the money can be disbursed to other organizations in this area. We have several environmental groups, Save the Dunes Council, Nature Conservancy, Shirley Heinze Fund, there is probably four or five of them. The bulk of each one of these--or I should say the nucleus of each one of these groups is made up of the same individuals and everybody--and as Mr. Read just eluded there is now the Coffee Creek Nature Conservancy of which he is a paid person.

Did you not just make that comment?

I am sorry, I misunderstood you. However, there is--this is a small nucleus of people who are paid to be on these groups and it seems to me that it's very self serving. They apply for and receive grants, they pay themselves salaries and that's what they do. And it perpetuates itself and these groups have a tendency to grow it seems, which I guess is okay if they want to buy property and donate it, I don't have a problem with that. But what I do have a problem with is that my tax money is given to them in the form of grants to pay their salary to come after my property which--

This is my opinion.

Because it has happened in the past, they are very instrumental in pushing environmental regulations and it's my concern that grant money will go to these local organizations to further their purposes.

##### **Response to Comments:**

Thank you for your comments. No written change required.

The history of Indiana's program development efforts is detailed in Chapter 6: Program Development and Coordination. From 1993 to 1995 several public meetings were held to gather public comments on Indiana's participation in the federal Coastal Zone Management Program. In the fall of 1994 and spring of 1995, support and opposition were voiced to participation in the federal Coastal Zone Management Program. In response, the DNR began an extensive public participation process to gain a better understanding of the various perspectives on the issues challenging the Lake Michigan coastal area in Indiana. This process resulted in the formation of the 1995 Northwest Indiana Public Workgroups and Blue Ribbon Advisory Panel. During this time of public outreach, the DNR did not develop, nor submit for public comment, a program document proposing a coastal

program for Indiana. Following the extensive public workgroup process, the DNR incorporated local priorities identified by the workgroups into the *Indiana Lake Michigan Coastal Program Scoping Document -June 2001*. This was the first document proposing a coastal program developed and released for consideration by the public. The proposed Indiana LMCP detailed in the *Scoping Document -June 2001* represents the culmination of extensive public outreach and participation from 1995 to its release.

Three public meetings were held in June 2001 and a public comment period was held to receive comments on the Scoping Document. The comments received and any resulting program changes were incorporated into the Lake Michigan Coastal Program and Draft Environmental Impact Statement (P/DEIS).

The Indiana LMCP is based on existing state laws. No additional regulations are proposed to participate in the federal Coastal Zone Management Program. In addition, the LMCP does not increase bureaucracy. The program organization, detailed in Chapter 4, is based on a network approach of existing state agencies and partnerships with local and federal entities. The Indiana LMCP will not alter the state regulatory or administrative structure.

The LMCP will make funds available for the Coastal Grants Program. Eligible recipients of funds are state, local, area-wide, regional, or interstate agencies. Nonprofit organizations are eligible to apply for non-construction/non-acquisition projects as grantees. They may partner with a public entity to perform some or all of the eligible construction or acquisition projects.

The Coastal Grants Program will accept applications for projects that meet the following objectives, detailed in Chapter 7 of the program document.

- The preservation or restoration of specific areas of the Coastal Program Area that are identified in the LMCP for their conservation or ecological values.
- The preservation or restoration of areas that contain one or more coastal resources of state or national significance.
- The prevention, reduction or remediation of nonpoint source pollution that affects coastal natural resources.
- The preservation or restoration of specific areas of the Coastal Program Area that are identified in the LMCP for their recreational, historical, or esthetic values.
- The redevelopment of deteriorating and underutilized urban waterfronts and ports that are designated as Areas of Particular Concern in the LMCP.
- The provision of access to public beaches and other public coastal areas and to coastal waters.

Chapter 8: Coastal Areas of Significance identifies coastal areas of significance for their conservation, ecological, recreational, historical, and esthetic values; in addition, Areas of Particular Concern for their value for redevelopment of urban waterfronts and ports are also discussed.



## **ORAL COMMENT #5: Mike Goin**

### **Summary of testimony:**

My name is Mike Goin. I am a resident of Miller on Lake Michigan. I also have a marina here in Portage, so I have a residence and as a business interest in Lake Michigan. I really am opposed to seeing another level of bureaucracy on the things that are done. And as this gentleman mentioned earlier and as the pamphlets and handout mentioned, there are all these organizations, all these state agencies, federal agencies that take care of virtually every aspect of life and business along Lake Michigan and I really can't see the reason for another layer of bureaucracy. The Corp of Engineers and the DNR--if you try to get a permit to do any work for my marina, for instance, the last time I talked to them it was six months for the State of Indiana, so -- and I doubt that these agencies are gonna give up any of their turf to make somebody happy on a commission such as this. The Coastal Zone Management thing several years back the money was gonna come in from the federal government but there was a huge local match that had to be put up to get that money and it's basically our money any way that we are sending to Washington. And we probably don't get our dollar back for every dollar sent anyway. So the 900,000 is probably gonna cost us a million five or something going out. I just--my main thing is another level of bureaucracy.

### **Response to Comments:**

Thank you for your comments. No written changed required.

The Indiana LMCP is based on existing state laws and does not create a 'commission'. No additional regulations are proposed to participate in the federal Coastal Zone Management Program. In addition, the LMCP does not increase bureaucracy. The program organization, detailed in Chapter 4, is based on a network approach of existing state agencies and partnerships with local and federal entities. The Indiana LMCP will not alter the state regulatory or administrative structure.

A stakeholders advisory group will be formed to provide input on the Coastal Grants Program. The advisory group will not have regulatory authority, but will serve as a representative group of local interests to provide input on the Coastal Grants Program.

As a state participating in the federal Coastal Zone Management Program, Indiana would be eligible to receive funds estimated at \$900,000. The funds would be awarded to the DNR, which is designated as the lead agency for administration of the LMCP. Following a three-year period, funds received for program administration will be required to be matched on a 1:1 ratio by the State. During the initial three fiscal years the match will be based on the following schedule: year one match is 4:1; year two match is 2.3:1 and year three match is 1.5:1. The State of Indiana may choose the total amount of funds requested annually for the LMCP up to the estimated \$900,000 limit. The State will accomplish the match for funds requested through the use of existing personnel salaries and other resources currently directed toward managing resources in the coastal region.

In addition, the LMCP will allocate a percentage of funds received to an Indiana Coastal Grants Program. Recipients of grants from the Coastal Grants Program will be required to provide a match. This match can consist of cash or 'in-kind' services. Cash includes salaries, project expenses, and purchase of equipment, supplies and other reasonable items associated with a project to be conducted with funds received from the LMCP. An 'in-kind' match includes the value for the use of equipment, supplies, land or other commodity already owned by the applicant or the use of items or staff donated by a third party. Receipt of funds from the Coastal Grants Program is voluntary.

## **ORAL COMMENT #6: Pam Belts**

### **Summary of testimony:**

My name is Pam Belts, landowner on the lake. And once again we have been all through this and it was voted down and I guess what bother me is they're talking about the draft that they have already made, we can make comments but it says that the final draft they will deal with comments then, which makes it too late for us to do anything. I believe the people and the government entities have--that are already controlling we can get a hold of and talk with, like the City of Gary, in which I live, why--I am asking the same questions everybody else it--why another layer of people possibly farther away from us that we have to appeal to again if a decision is made that nobody goes along with? How do we stop these things before every inch of the property, including that we live on, is regulated and ruled and we have no recourse, we don't even know the people we can get to talk with? They always seem to offer a draft, they let you talk, they don't make the changes.

### **Response to Comments:**

Thank you for your comments. No written change required.

The Final Environmental Impact Statement (FEIS) will be release to detail the comments received during the public comment period on the P/DEIS, provide responses to those comments, and to make publicly available the preferred alternative of the federal Office of Ocean and Coastal Resource Management concerning the approval of the Indiana LMCP. The public is able to submit comments on the FEIS. Once the public comment period on the FEIS is completed, the OCRM will issue a record of decision concerning their decision to approve or deny the Indiana LMCP as part of the federal Coastal Zone Management Program.

The Indiana LMCP is based on existing state laws and does not create a body or group with regulatory authority. No additional regulations are proposed to participate in the federal Coastal Zone Management Program. In addition, the LMCP does not increase bureaucracy. The program organization, detailed in Chapter 4, is based on a network approach of existing state agencies and partnerships with local and federal entities. The Indiana LMCP will not alter the state regulatory or administrative structure.

A stakeholders advisory group will be formed to provide input on the Coastal Grants Program. The advisory group will not have regulatory authority, but will serve as a representative group of local interests to provide input on the Coastal Grants Program.

## ORAL COMMENTS #7: George Smulka, Duneland Sierra Club and Audubon Society

### Summary of testimony:

My name is George Smulka. I live in Griffith, I am a member of Sierra Club and Audubon Society. There had been a lot of talk about impact of regulation on private property, impact of regulation of particular stakeholders. What I think is being lost in this discussion is the fact that the-- that Lake Michigan is a common resource that we all use. As of right now we have lost, for all intents and purposes, the fishing industries. Why is that? In my humble opinion, that's a failure in regulation. We are, at this point, under a fish advisory so that sport fishing is very seriously impacted. Why is this? Again, the amount of affluent, both airborne and waterborne, flowing into the lake has seriously impacted the health of the fishes which are used for sport fishing, again, in my humble opinion, failure of regulation. Thirdly, we have something called a mixing zone which allows a huge amount of affluence into the lake contaminating our drinking water. A great many of us use that, I don't think there are too many places around here that are still using wells primarily. As a matter of fact, a number of them have been contaminated due to the affluence of other people who don't really care for the common good. And there are more and more of us are being forced to use Lake Michigan as a source of water with the diminution in the lake levels. The relative effect of this pollution is being magnified, again, I think a failure of regulation. I could go on, as a matter of fact, I could probably go on for hours, but the point that I am trying to make is it is not, in my humble opinion, too much regulation, it is ineffective regulations. If this Coastal Management Program improves the quality of life in Northwest Indiana so much therefore, I support it. If it does not and it is simply yet another level of ineffective government, I will not support it. but as far as I am concerned right now, we don't have enough regulations because the ones that are there either are not working or are not being enforced. If this helps to enforce those regulations that are there, which is what you seem to be indicating it may do, then by all means let's get about it. But to cry and whine about individual impacts when the common good is being thrown to the wind is a ridiculous waste of time and a foolish attention to the wrong details, thank you.

### Later Oral Comments:

With some trepidation, I might make a comment on funding for environmental organizations. The gentleman that spoke has a very poor understanding of where most of the funding comes from. Most of the funding--I am not saying that there weren't grants, there are, but that is a minor portion. Most of the funding comes from donations and endowments of private individuals who are interested in supporting and furthering the best interest of all of the people in Northwest Indiana. These are not shadow organizations put forward by the government with mostly government funding, that's nonsense. No such thing exists. Secondly, the most recent speaker indicated there was a great deal of opposition. Well, let me take the other side, there was a great deal of support. If you're going to list the people that are in opposition, I suggest you list all of the people that are in support, which I think outnumbers the others by a huge margin. Thank you.

### Later Oral Comments:

What I hear is going to trouble me just a little bit. Many of the problems I see with respect to Coastal Zone Management are highly technical problems, distribution of sand, dune building, those sorts of things. Those are not really easily addressed opinions. And what you have told me at this point make me think that the projects that are going to be submitted are the ones that are going to be addressed and are going to be funded. I understand. Okay, That makes a lot more sense. What I am saying is that there are many levels of benefit for the local individuals is extremely important. I can understand that and effects to the local people is also really important but there are also county, state and national aspects to this. After all, the lakes are a national resource not just the State of Indiana's resource. All of those things have to be factored in and I was wondering how you

were going to invest those aspects of it and, in particular, engineering solutions are not cheap, neither are studies done by engineering companies. And \$900,000 isn't gonna go very far with that sort of thing. My opinion is very ineffectively, I feel, but that's an opinion.

**Response to Comments:**

Thank you for your comments. No written change required.

The Indiana LMCP is based on existing state laws. No additional regulations are proposed to participate in the federal Coastal Zone Management Program. In addition, the LMCP does not increase bureaucracy. The program organization, detailed in Chapter 4, is based on a network approach of existing state agencies and partnerships with local and federal entities. The Indiana LMCP will not alter the state regulatory or administrative structure.

The LMCP will support activities that improve government coordination and policy and decision-making in the coastal region.

The LMCP will establish a Coastal Grants Program to support local projects to achieve program goals. In addition, the LMCP will also seek other opportunities to develop partnerships among federal, state, and local programs to achieve program goals. The LMCP will pursue the award of Section 309 Coastal Zone Enhancement Awards as described in Chapter 7 page 325 of the P/DEIS, and other available funding, to continue to improve the program's ability to address key issues.

## ORAL COMMENTS: #8: Paul Panther, Town Council Ogden Dunes

### Summary of testimony:

Paul Panther with the town council of Ogden Dunes and overall I think we have a good feeling about this program. However, there is a friend of our town and a resident of our town who has given us some comments, his background is a professional or--at least a most concerned citizen in terms of environmental issues. Some of things I want to read here would be appropriate to know and perhaps to respond to and also DNR so bear with me for just a few minutes. Probably could, yes. (He is agreeing to give Ridenour a copy of the document he is reading from.) As this person understands it, therefore, how I understand the history of the program the Lake Michigan was being created in response to a federal government requirement that originates from the Coastal Zone Management Act. Under provisions of this act Indiana is required to submit the State's legal mechanisms which demonstrate effective management of our coastal resources. Many states have elected to implement a Coastal Zone Management program to meet the federal act requirements such as our program, the coastal program. As this information here suggests the Coastal Zone Management Act was developed in response to destruction of eastern sea coast developments, which were sited on known barrier islands. These islands were known to permanently migrate during major storm events such as hurricanes. The act set up a regulatory structure that prohibited development on these islands and similar stretches of coastline subjected of storm event erosion and ongoing littoral drift; is that fairly accurate so far?

That would be a question we would be concerned or least--If I could go ahead with this and share some of the other concerns here. The provisions of the CZMA have been applied to the Great Lakes Basin, even though the erosion conditions experienced on the ocean coasts do not occur within the basin. The government has drawn no distinction between ocean coasts and the remarkably different shoreline of the Great Lakes, using the CZMA as a one size fits all approach to coastal management, that's his interpretation of this problem with the program. While at a casual glance the program appears wonderful, several key questions along with Ohio's implementation of the program shows significant gaps and abuse of regulatory authority, which goes back to one of the questions earlier centering on taking of private property. Answering the following two questions quickly illustrates the flawed application that part of the CZMA this person is concerned with notwithstanding the many positives there could be.

In general, the question is: What problem is the CZMA trying to solve in the Great Lakes Basin and specifically what problem is the Lake Michigan Coastal Program trying to solve for Indiana? I think that was sort of stated earlier. Second question would be for erosion problems impacting Indiana today, how does implementation of the Lake Michigan Coastal Program propose to solve those problems? I have already seen in the commentary that as far as erosion goes, they are really not gonna deal with any large scale erosion issues. They can deal with small scale and those are in the commentaries back in Chapter 15 and preliminaries but if I could I would like to share the major concerns that's from Ohio. In Ohio the Ohio Department of Natural Resources is embroiled in a staggering legal and political battle where the ODNR used existing authority to reset the ordinary high water mark along Ohio's northern coast on Lake Erie using CZMA provisions. The ordinary high water mark is an elevation that is set by state and it determines the point of riparian water ownership along the waterway, forgive me if I don't pronounce that word right, property below the mark is state controlled and property above the mark is riparian controlled. The ODNR believed it was necessary to reset the mark to protect riparian property that had suffered extensive erosion damage. The damage, however, was not a natural occurring event but was rather caused by a combination of Army Corp of Engineer sanctioned coastal structures that interrupt natural littoral drift, near beach state-approved sand mining also that permanently removed sand from the near shore environment and an artificially raised lake level designed to facilitate, I guess, the Niagara River hydropower production and shipping issues. By increase the elevations of ordinary high water mark, the ODNR effectively

condemned many homes along the coastline either by including some land property or homes within the high water mark. Thus, private property below the mark was taken and homes which had the mark running through the house could not longer be sold. Here, Ohio's solution under CZMA provisions was to move private citizens off the shoreline and not fix the government sanctioned roots of the erosion. The prospect of the CZMA-inspired programs in the Great Lakes is that they allow government to fix government induced shoreline erosion problems by relocating private citizens without compensation, claiming emergency measures provisions of CZMA complaint programs.

While the general concepts presented under the Lake Michigan Coastal Program address issues that are important to citizens and the environment, recent events suggest that a potential of abuse, and that's the Ohio issue, not saying Indiana is doing that, if that is a true issue and that is something that Indiana needs to take a hard look at before they really get into this program. I think that's one of the suggestions here they wish to support it, it would be prudent to enact measures that protect citizens from situations such as those that are purportedly occurring and being experienced by Ohioans. Before supporting it, it is suggested that Indiana lake front communities should have a very clear understanding of why this is necessary and what problems it will specifically address. We will wish to protect and restore natural resources, prevent of loss of life and property in coastal hazard areas, improve public access, improve government planning and so forth. It is critical to know specifics of how these goals will be achieved. These are the comments that I thought were pretty appropriate since it's very hard to go through all this book and not know how 36 other states have utilized it or abused it or however you want to look at it.

#### **Response to Comments:**

Thank you for your comments. No written change required.

In response to intense pressure on coastal resources, including the Great Lakes, and because of the importance of coastal areas of the United States, Congress passed the Coastal Zone Management Act of 1972 as amended (CZMA), (16 USC 1451). The program is administered by the Secretary of Commerce, who in turn has delegated this responsibility to the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management (OCRM). The CZMA authorizes a federal program to encourage coastal states and territories to develop comprehensive coastal programs. Currently, 33 states and territories have coastal programs approved by NOAA. The CZMA affirms the national interest in the effective protection and careful development of the coastal zone, including the Great Lakes basin, by providing assistance and encouragement to coastal states to voluntarily develop and implement coastal programs for their state. Each state has the ability to tailor their program to address their unique coastal environment. For shoreline erosion issues, the CZMA requires, that a participating state implement a "planning process for assessing the effects of, and studying and evaluating ways to control, or lessen the impact of, shoreline erosion, and to restore areas adversely affected by such erosion". Action taken in Ohio concerning riparian (shoreline) ownership was taken based on Ohio state laws and policies.

The Indiana LCMP outlines how the state can participate in the Coastal Zone Management Program using existing state laws and programs. It does not create new zoning or other regulatory authorities. Nor does the LCMP change or take away decision-making authority or control from local government. Participation in the federal Coastal Zone Management Program will not alter the State's requirements for public participation in the development of regulatory authorities or policies that may arise independently from the LCMP.

By participating, Indiana will be eligible to receive federal funding to protect, restore, and responsibly develop resources in the lake Michigan region. This funding will be used to develop partnerships and local projects with local governments and non-profit organizations to address regional priorities.

One of the goals of the LMCP is to support activities that prevent the loss of life and property in coastal hazard areas. Chapter 10: Shoreline Erosion and Mitigation Planning of the LMCP document addresses coastal hazard issues on Indiana's shoreline and the existing methods the state uses to monitor and manage coastal hazards. The LMCP will work through the existing methods identified in Chapter 10 to enhance planning and management of coastal hazards. For example, the LMCP document identifies several options for enhancing coastal monitoring and planning that could be considered utilizing funding from the Coastal Zone Management Program. However, under the CZMA, federal funds cannot be used to finance large-scale erosion prevention structures. Therefore, federal funds cannot be used for beach renourishment or hard structure erosion control projects. Small-scale shoreline stabilization structures are allowed for the redevelopment of deteriorating or underutilized urban waterfronts or ports to provide for increased public use and access. Vegetative erosion control activities or planning activities for a beach renourishment project or non-structural erosion control project can also qualify. Despite the restriction on funding large-scale erosion control structures, the LMCP will be able to work cooperatively with state and local entities to improve our understanding and planning for coastal hazards and shoreline erosion.

The Indiana shoreline has been highly altered from natural conditions by man-made coastal structures. The shoreline can be divided into six distinct reaches separated in most cases by these man-made structures. Analysis of these reaches resulted in the identification of several high erosion hazard areas. Many of these areas are currently protected from erosion, however, the on-going maintenance and monitoring of shoreline erosion and protection is important for managing the erosion hazard and an important component of the LMCP. In addition, it is important to understand the coastal processes affecting these areas. The pattern of rise and fall of Lake Michigan is unpredictable, but there is no doubt there will continue to be significant changes in lake elevation. The storm events that occur during periods of high lake levels can cause the lake to have devastating impacts on the shoreline, sometimes regardless of the existing erosion protection. The LMCP identified high erosion hazard areas as Areas of Particular Concern in Chapter 8: Coastal Areas of Significance. Designation of Areas of Particular Concern will assist in prioritizing the allocation of funds for the LMCP and Coastal Grants Program, promoting interagency cooperation, providing technical assistance, and supporting research and local planning.

**ORAL COMMENTS #9: Unidentified #2, President, Porter County League of Women Voters**

**Summary of testimony:**

I am a Portage resident for some forty years. I am currently serving as the president of the Porter County League of Women Voters. I am here tonight because the league has for many years been very concerned with water quality both at the local and national level. This coming weekend an association where all of the league pays dues, the Lake Michigan Inter-league will be meeting in Benton Harbor and will be studying water quality, run off effluence source and non-point source pollution in the Benton Harbor, Berrien Springs area. I hope one of my league members can attend. I am not sure that any of them are able to, even though we are active supporting members of the group, but I think we need to look at the concern of the Lake Station lady and see how this group—this organization is being promoted can assist us in preparing a program ongoing for the preservation of the quality of the lake water. Many of us have only recently left our wells within the last five years and now receive our water from a commercial company, which this week informed me that they have been sold to a foreign European organization and also informed me that within the next three or four years it will be building a new water intake in Lake Michigan in order to provide my household with water. I think that alerted me again to the need to protect the quality of the water in the lake. Now if that's going to take more supervision from either my county government or my state government or indeed the national government, since that is what is in charge of Lake Michigan, then I for one am willing to work with that organization. I think the lady from Lake Station has raised a very valid question. One hopes that all of the existing Indiana legislation pertaining to the building management control of town and city waste disposal systems will be carefully adhered to if its done properly and with the proper supervision and regulation it will be all right. But we all need to be very alert to these regulations and be sure that they are carried out carefully and well for the benefit and for the health of our whole community and I think whether you're a paid, unpaid volunteer, ignorant, student or indeed a research specialist in this program we all need to work together because its our water.

**Response to Comments:**

Thank you for your comments. No written change required.



## **ORAL COMMENTS #10: Susan Showers, STOP Organization**

### **Summary of testimony:**

My name is Susan Showers. I'm a resident Liberty Township. I am also a property owner and a member of the STOP organization. I think one thing that kind of got in the way, what I want everyone here to understand is just because someone is against another layer of bureaucracy does not mean they are not concerned about the environment and the surroundings in Lake Michigan. We simply believe that there are, as you have stated there is already a numerous number of lawful regulations already in place. If there is flaws in there they need to be fixed but we don't need another layer of bureaucracy. Now I don't see where this plan is really much different than the Coastal Zoning Management plan that was presented in 1995. At that time the DNR decided that there was too much red tape involved and they dropped the program. I don't see where there has really been a lot of change since then. So I don't really see where we now have this hugely new and improved version of that program. It's really not all that different. At that time when that plan was presented in 1995, there were several local government agencies that passed resolutions opposing it. Several of the towns several of the county commissioners and there was a petition drive that was presented at that time of property owners and residents of the area. Now that was part of, I believe, their reference of there being mass opposition to their program back in 1995, which was part of the reason that it was dropped. Someone came to the June hearing and brought all these issues up. They were promised that it would be addressed and into the plan, all of this opposition to the program in 1995. However if you look at chapter 15 there was only a brief summary of there was opposition. It doesn't list the towns, it doesn't list the counties, it doesn't list the number of property owners. They signed a petition against it, so I feel like what they have decided to do because of the opposition back then, they are trying to gloss over it this time and rather than really showing how much opposition there is in the area, not only by property owners but local government agencies. They just wanted to hide it in these little summary notices in there. I really think it needs to be addressed better at the time you present whatever is gonna be a final draft. So please understand that no one is against protecting the environment, no one is against the fishing industry, no one is against cleaning up Lake Michigan. We simply feel that we don't need another layer of bureaucracy to do that. Everything is in place and just needs to be fixed.

### **Later Oral Comments:**

I will be very brief. I just want to comment that the answers given to the last two questions to me give prime examples of massive red tape. That was exactly the reason the DNR dropped the plan in 1995.

### **Response to Comments:**

Thank you for your comments. No written change required.

The history of Indiana's program development efforts, including opposition from private property rights activists and local councils and commissions, is detailed in Chapter 6: Program Development and Coordination. From 1993 to 1995 several public meetings were held to gather public comments on Indiana's participation in the federal Coastal Zone Management Program. In the fall of 1994 and spring of 1995, support and opposition were voiced to participation in the federal Coastal Zone Management Program. In response, the DNR began an extensive public participation process to gain a better understanding of the various perspectives on the issues challenging the Lake Michigan coastal area in Indiana. This process resulted in the formation of the 1995 Northwest Indiana Public Workgroups and Blue Ribbon Advisory Panel. During this time of public outreach, the DNR did not develop, nor submit for public comment, a program document proposing a coastal program for

Indiana. Following the extensive public workgroup process, the DNR incorporated local priorities identified by the workgroups into the *Indiana Lake Michigan Coastal Program Scoping Document -June 2001*. This was the first document proposing a coastal program developed and released for consideration by the public. The proposed Indiana LMCP detailed in the *Scoping Document -June 2001* represents the culmination of extensive public outreach and participation from 1995 to its release.

Three public meetings were held in June 2001 and a public comment period was held to receive comments on the Scoping Document. The comments received and any resulting program changes were incorporated into the LMCP and Draft Environmental Impact Statement (P/DEIS). All oral comments received during the scoping meetings were included in the P/DEIS.

The Indiana LMCP is based on existing state laws. No additional regulations are proposed to participate in the federal Coastal Zone Management Program. In addition, the LMCP does not increase bureaucracy. The program organization, detailed in Chapter 4, is based on a network approach of existing state agencies and partnerships with local and federal entities. The Indiana LMCP will not alter the state regulatory or administrative structure.

## **ORAL COMMENTS #11: Don Ewoldt, Lake Erie Land Company**

### **Summary of testimony:**

So it's a program that will encourage a couple different non-profits that we know. We have restored about a mile of Sand Creek and about two miles of Coffee Creek at a tremendous cost. With \$900,000, I could encourage a couple nonprofit groups around the Chesterton area to restore anywhere from between eight and 15 miles of stream for you. That would handle large-scale erosion and erosion problems and, you know, for \$80,000 a mile and buy land 100 feet on both sides of the stream at Coffee Creek. We did have an opportunity to go to the headwaters and do that, that's what I would encourage people to do, go to the head waters and work downstream. Start down at the bottom, you still have--most of your stream is contaminated, Coffee Creek, the water conservancy happens to be in the lower one-third of the watershed above that property that is still contaminating what we have done on our parcel there. But certainly the headwaters is the whole idea and do all the streams now with \$900,000 we can do between, like I said, between eight--depending on the cost of land we can buy the land (unintelligible) or we can pay that money for conservation easement people who want to still keep it in their ownership, but 100-foot above on both sides of the stream will go a long way towards handling the large scale erosion problem on all the [streams] treatment in Porter and Lake County. And \$900,000, you know, would take--probably take fifty years to do all the streams in the eastern county but at least it would be a good start and the impact it would have on the lake on the coastal, though, is that you wouldn't have all the contamination, you wouldn't close down beaches, we'd be multiplying that \$900,000 every year in added sales tax revenue and keeping the people here instead of closing beaches so.

### **Response to Comments:**

Thank you for your comments. No written change required.

**ORAL COMMENTS #12: Pauline Poprad, Chesterton Tribune**

**Summary of testimony:**

I want to get this on the record. I am Paulene Poparad with the Chesterton Tribune. NIRPC is a local metropolitan planning organization here and for transportation enhancement act funding--federal funding, they have to prioritize the project so they did earlier this year prioritize them. Two of the projects that were tested last year at NIRPC when they got to the DNR and then consequently the Governor's office, they were awarded one million dollar and \$5 million and the project above them didn't get anything. So I am wondering with the stakeholders' committee, if they can make a recommendation to the DNR, but they are not binding recommendations to the DNR, who will decide who gets the money? All I want is one agency, who decides, DNR or NOAA?

**Response to Comments:**

Thank you for your comments. No written change required.

The grant program referred to in the comment was administered by the Indiana Department of Transportation, not the DNR. For the Coastal Grants Program, the DNR will form a stakeholders advisory group to provide input and guidance. The stakeholders advisory group will consist of representatives from northwest Indiana and will be geographically representative as well as representative of the broad range of interests and experience in the coastal region. The Director of the DNR will conduct final review of applications for the state and forward selected application for final review by the Office of Ocean and Coastal Resource Management at NOAA.

### **ORAL COMMENTS #13: Unidentified #3**

#### **Summary of testimony:**

I have a question or comment on the kind--what strings are attached from the federal government? Let me give you an example. The City of Portage build a public marina down here, Portage Public Marina and they got Indiana water grants to put in launch ramps, bathrooms in part of the facilities in the bathhouse. I know about this because I ran that for five years. After we were open a couple years a team from Minnesota--federal team from Minnesota came down and looked for compliance to ADA aspects of the bathhouse, of the property in general. And they measured numerous things. I think there was forty to fifty discrepancies, most of them minor like a quarter inch off on the drinking fountain level, 3/4 of an inch off on the side lift on the toilet, things of that nature, what the-- the 84-inch height for parking signs for van accessible signs and things like that. And I am wondering what kind of strings are we looking at? Don't get me wrong I don't have anything against the ADA. I just--some things were rather--and the response to that the engineering plans were pretty accurate and it was a contractor that was not familiar with all the regulations and piles and piles of regulations like that--well, this looks good, we are off a half a degree on the sidewalk. It turns out--well, it looks good to my eye but that's mostly what it was. It was contractors that did not--it wasn't engineers.

#### **Response to Comments:**

Thank you for your comments. No written change required.

Participation in the federal Coastal Zone Management Program is voluntary. The LMCP is based on Indiana's existing state laws and does create any new regulations. Federal and state grant funding requires that publicly funded projects for public access provide access for the disabled. In addition, the availability and quality of handicap access is an important priority for the DNR. Grants from the Coastal Grants Program will require compliance with the Americans with Disabilities Act.

## Appendix A: Glossary of Terms

**Accretion-** an increase of solid materials by natural growth or by gradual external addition. Accretion is the opposite of erosion.

**Administrative decision-** refers to a final order or determination by the ultimate authority for a state agency, and which may be cited as precedent in an administrative or civil case, under IC 4-21.5.

**Administrative Orders and Procedures Act or AOPA-** refers to IC 4-21.5.

**Administrative review-** the process initiated when a person petitions the ultimate authority for an agency to reconsider an agency action, with the ultimate authority or its administrative law judge conducting any resulting hearing *de novo*.

**Aquifer-** an underground geologic formation that:

1. is consolidated or unconsolidated; and
2. has the ability to receive, store, and transmit water in amounts sufficient for the satisfaction of any beneficial use of water.

**Backshore-** The zone of the shore or beach lying between the foreshore and the coastline and acted upon by waves only during severe storms, especially when combined with exceptionally high water.

**Beach-** The zone of sedimentary material that extends landward from the low water line to the place where there is marked change in material or form, or to the line of permanent vegetation (usually the effective limit of storm waves). The seaward limit of a beach--unless otherwise specified--is the mean low water line. A beach includes foreshore and backshore. The Indiana portion of the Lake Michigan coast which is at or lakeward of the ordinary high watermark (established at 581.5 feet, IGLD (1985)).

**Beach nourishment-** as used in the rules governing Indiana's navigable waters (codified at 312 IAC 6), is the placement of sand to mitigate beach erosion

1. within the ordinary high watermark of Lake Michigan; or
2. within such proximity to the shoreline of Lake Michigan that wind or water erosion is likely to transport sand into the lake.

**Beneficial use of water-** a use of water for any useful and productive purpose. The term includes the following uses: domestic; agricultural, including irrigation; industrial; commercial; power generation; energy conversion; public water supply; waste assimilation; navigation; fish and wildlife; and recreational.

**Bioaccumulative chemicals-** substances that increase in concentration in living organisms, and are very slowly metabolized or excreted, as they breathe contaminated air or water, drink contaminated water, or eat contaminated food. Twenty-two substances have been designated as bioaccumulative chemicals of concern under the Great Lakes Initiative.

**Bluff-** land that slopes toward a waterbody and rises at least 25 feet above the waterbody at an average slope of 30 percent or greater.

**Boat-** a watercraft.

**Breakwater-** a structure, usually detached from the shoreline, protecting a shore area, harbor, anchorage or basin from waves.

**Brownfield-** an industrial or a commercial parcel of real estate:

1. that:
  - (A) is abandoned or inactive; or
  - (B) may not be operated at its appropriate use;
2. and on which expansion or redevelopment is complicated because of the actual or perceived presence of a hazardous substance or petroleum released into the surface or subsurface soil or groundwater that poses a risk to human health and the environment.

**Budget agency-** the Indiana budget agency created under IC 4-12-1-3.

**Bulkhead -** A structure or partition placed on a bank or bluff to retain or prevent sliding of the land and protect the inland area against damage from wave action. See also seawall.

**CERCLA-** the federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 USC 9601, *et seq.*).

**Clean Water Act-** 33 USC 1251, *et seq.*, and regulations adopted under 33 USC 1251, *et seq.*

**Coast -** The strip of land, of indefinite width (up to several miles), that extends from the shoreline inland to the first major change in terrain features.

**Coastal area or region-** The term describes the “coastal zone” for Indiana as the term “coastal zone” is used in 16 USC 1453(1).

**Coastal area of significance-** describes “special management area” as the phrase is used in the regulations adopted under the CZMA.

**Coastal hazard-** the adverse effects which result from flooding, erosion, accretion, subsidence, reliction, and lake level rise or fall.

**Coastal resources of national significance-** resources with significant ecological, cultural, historic, and esthetic values.

**Coastal waters-** the waters within the territorial jurisdiction of the U.S. consisting of the Great Lakes, their connecting waters, harbors, roadsteads, and estuary-type areas such as bays, shallows, and marshes.

**Coastal Zone Management Act (CZMA)-** 16 USC 1451, *et seq.*, and regulations adopted under 16 USC 1451, *et seq.*

**Codification-** the process of collecting and arranging systematically, by subject, the statutes, regulations, or rules of the federal government or a state government.

**Condemnation-** the process of taking private property for public use through the power of eminent domain.

**Confined feeding-** the confined feeding of animals for food, fur, or pleasure in lots, pens, ponds, sheds, or buildings where:

- animals are confined, fed, and maintained for at least forty-five days during any twelve month period; and
- ground cover or vegetation is not sustained over at least fifty percent of the animal confinement area.

The term does not include the following:

- A livestock market:
  - where animals are assembled from at least two sources to be publicly auctioned or privately sold on a commission basis; and
  - that is under state or federal supervision.
- A livestock sale barn or auction market where animals are kept for not more than ten days.

**Confined feeding operation-**

1. any feeding of:
  - at least three hundred (300) cattle;
  - at least six hundred (600) swine or sheep; and
  - at least thirty thousand (30,000) fowl;
2. any animal feeding operation electing to be subject to IC 13-18-10; or
3. any animal feeding operation that is causing a violation of:
  - water pollution control laws;
  - any rules of the water pollution control board; or
  - IC 13-18-10.

**Conservancy district-** an entity created under IC 14-33 (or under IC 13-3-3 before its repeal) for any of the following purposes:

1. Flood prevention and control.
2. Improving drainage.
3. Providing for irrigation.
4. Providing water supply, including treatment and distribution, for domestic, industrial, and public use.
5. Providing for the collection, treatment, and disposal of sewage and other liquid wastes.
6. Developing forests, wildlife areas, parks, and recreational facilities if feasible in connection with beneficial water management.
7. Preventing the loss of topsoil from injurious water erosion.
8. Storage of water for augmentation of stream flow.
9. Operation, maintenance, and improvement of:
  - a work of improvement for water based recreational purposes; or
  - other work of improvement that could have been built for any other purpose referenced in the definition.

**Conservation easement-** a nonpossessory interest in real property by which a person imposes limitations or affirmative obligations, the purposes of which include:

1. retaining or protecting natural, scenic, or open-space values of real property;
2. assuring its availability for agricultural, forest, recreational, or open-space use;
3. protecting natural resources;
4. maintaining or enhancing air or water quality; or



5. preserving the historical, architectural, archeological, or cultural aspects of real property.

**Conservation officer-** an officer employee of the division of law enforcement of the DNR.

**Cumulative effects-** the impact which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what person undertakes the other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. For purposes of determining cumulative effects within a floodway, each of the following elements is considered:

- Adverse effects on the efficiency of, or undue restrictions to the capacity of, the floodway.
- Unreasonable hazards to the safety of life or property.
- Unreasonable detrimental effects upon fish, wildlife, or botanical resources.

**Current** - A flow of water.

**Dam-** any artificial barrier, together with appurtenant works, which does or may impound water.

**Diffused surface water-** water that comes from falling rain or melting snow or ice and that:

1. is diffused over the surface of the ground or that temporarily flows vagrantly on or over the surface of the ground as the natural elevations and depressions of the surface of the earth guide the water; and
2. has no definite banks or channel.

**DNR-** the Indiana Department of Natural Resources created by IC 14-9-1-1.

**Downdrift** - The direction of predominant movement of littoral materials.

**Dune** - A ridge or mound of loose, wind-blown material, usually sand.

**Endangered species-**

1. an animal, other than an insect, whose prospects for survival or recruitment within Indiana is in immediate jeopardy and is in danger of disappearing from the state. Included are all species classified as endangered by the federal government which occur in Indiana.
2. an insect whose prospects for survival or recruitment within Indiana are in immediate jeopardy, and is in danger of disappearing from the state, where any of the following three conditions occur:
  - A species which may occur in Indiana is classified as endangered by the federal government;
  - A species is biologically dependent on a threatened or endangered plant species;
  - A species is known from fewer than five sites in Indiana.

An insect is also considered endangered if the insect is listed as extirpated but is later rediscovered in Indiana, whether the population is endemic or believed to be recently adventive. The discovery of any life stage of an extirpated or endangered species is fiduciary evidence that a population exists.

3. a plant known to occur currently on five or fewer sites in Indiana.

**Energy facilities-** any equipment or facility which is or will be used primarily in the exploration for or the development, production, conversion, storage, transfer, processing, or transportation of an energy resource.

**Enforceable policy-** law

**Environmental impact statement-** federal environmental impact statement and state environmental impact statement.

**Erosion-** the gradual process by which land surfaces are worn away through weathering, transportation, or corrosion. On a beach, the carrying away of beach material by wave action, littoral currents or wind. Erosion is the opposite of accretion.

**Exemption-** a release from a burden, duty, or obligation. An exemption from a law is strictly construed by placing the burden of providing the exemption upon the person claiming it.

**Exotic species-** species not native to Indiana

**Extirpated species-**

1. an animal, other than an insect that has been absent from Indiana as a naturally occurring breeding population for more than 15 years but exists outside Indiana as a wild population.
2. an insect for which any of the following three conditions occur:
  - A species is declared extirpated from Indiana by a specialist for the species, family, or order to which the insect belongs;
  - A species has not been located in Indiana as a naturally occurring breeding population for more than 15 years, but the species exists outside Indiana as a wild population;
  - A species appears on a federal list as being extirpated in Indiana;
3. a plant believed to be originally native to Indiana but without any currently known populations within the state.

**Federal consistency-** a requirement in the CZMA that federal actions that affect any land or water use or nature resource of the coastal area be consistent with the laws identified in the Indiana program. Federal actions include federal activities (actions by federal agencies, including development projects), federal licenses (actions by any person that require federal permission), and federal financial assistance to state and local government. For federal activities, the standard is “consistent to the maximum extent practicable.” For federal licenses and federal financial assistance, the standard is “consistent.”

**Federal environmental impact statement-** a document prepared for all major federal actions having a significant impact on the environment which describes the environmental impact of the action, the negative environmental affects which cannot be avoided if the proposed action is implemented, alternatives to the action, and any irreversible commitments of resources that an action would involve should it be implemented. To determine whether there is a need to prepare an environmental impact statement, an environmental assessment is often prepared first.

**Fetch** - The unobstructed distance over water in which waves are generated by wind of relatively constant direction and speed.

**Flood or Flood water-** the water of a river, stream, or lake in Indiana, or upon or adjoining a boundary line of Indiana, that is above the bank or outside the channel and banks of the river, stream, or lake.

**Flood hazard area-** those flood plains or parts of flood plains that have not been adequately protected from flood water by means of dikes, levees, reservoirs, or other works approved by the DNR.

**Flood plain-** the area adjoining a river or stream that has or may be covered by flood water.

**Floodway-** the channel of a river or stream, and the parts of the flood plain adjoining the channel, that are reasonable required to efficiently carry and discharge the flood water during a regulatory flood.

**Foreshore** - The part of the shore lying between the crest of the seaward berm (or upper limit of wave wash) and the water's edge at low water. The foreshore is ordinarily traversed by the runup and return of the waves.

**Fragmentation-** the process through which large continuous areas of habitat are reduced in area and separated into discrete parcels. The discrete parcels become isolated from other areas of similar habitat by roads, railroads, canals, power lines, or other means of landscape modification.

**General permit-** a permit for a regulated activity, the terms and conditions of which are defined by rule or regulation, and to which a person may elect to adhere instead of completing a formal application process for the activity.

**Grant-** a financial assistance instrument and refers also to a cooperative agreement.

**Great Lakes Basin Compact-** an agreement among the eight Great Lakes States that recognizes the need for cooperative action in the Great Lakes Basin. The Compact was ratified through the collective legislative action of the eight Great Lakes States and later approved by Congress. The Compact establishes the Great Lakes Commission and identifies the geographic boundary where the Commission's powers and functions are exercised. The purposes of this Compact are, through means of joint or cooperative action: (1) To promote the orderly, integrated, and comprehensive development, use, and conservation of the water resources of the Great Lakes Basin. (2) To plan for the welfare and development of the water resources of the Basin as a whole as well as for those portions of the Basin which may have problems of special concern. (3) To make it possible for the states of the Basin and their people to derive the maximum benefit from utilization of public works, in the form of navigational aids or otherwise, which may exist or which may be constructed from time to time. (4) To advise in securing and maintaining a proper balance among industrial, commercial, agricultural, water supply, residential, recreational, and other legitimate uses of the water resources of the Basin. (5) To establish and maintain an intergovernmental agency the end that the purposes of this compact may be accomplished more effectively.

**Groin-** a fingerlike structure built perpendicular to the shoreline, usually with other groins, to trap littoral drift or retard erosion of the shore.

**Ground water-** all water occurring beneath the surface of the ground regardless of location and form.

**Historic site-** a site that is important to the general, archaeological, agricultural, economic, social, political, architectural, industrial or cultural history of Indiana. The term includes adjacent property that is necessary for the preservation or restoration of the site.

**Indiana Administrative Code (IAC)-** the codification of rules adopted by state agencies within the Indiana Administrative Code.

**Indiana Code (IC)-** the codification of legislative enactments by the Indiana General Assembly contained within the Indiana Code.

**Includes-** “includes but is not limited to.”

**Indiana Environmental Policy Act-** refers to IC 13-12-3 and IC 13-12-4.

**Jetty-** on an open coast, a structure extending into a body of water, and designed to prevent build-up of littoral materials in a channel. Jetties are built at the mouth of harbors or other navigable waterways.

**Lake Michigan Coastal Program document-** a comprehensive statement in words, maps, illustrations, or other media of communication, prepared and adopted by Indiana under the CZMA, which sets forth laws, objectives, policies, and standards to guide public and private uses of lands and waters in the coastal area.

**Law-** a constitutional provision, judicial decision, administrative decision, statute, regulation, rule, or other legally binding document by which Indiana exerts control over private and public land and water uses and natural resources in the coastal area. A law describes the term "enforceable policy" as that term is used in 16 USC 1453(6a).

**Littoral-** the shore of a lake, reservoir, or other standing body of water.

**Littoral drift-** the movement of sediments, caused by wave action, along the coastline. On the southern shoreline of Lake Michigan, from the Michigan state line to Gary, littoral drift carries sediments from the east toward the west. From the Illinois state line to Gary, littoral drift carries sediments from the west toward the east.

**Littoral transport -** The movement of littoral drift along the shoreline by waves and currents. Includes movement parallel (longshore transport) and perpendicular (on-offshore transport) to the shore.

**Local government-** a political subdivision of, or a special entity created by, Indiana which (in whole or part) is located in, or has authority over, the coastal area and which either:

1. has authority to levy taxes or to establish and collect user fees; or
2. provides a public facility or public service which is financed in whole or part by taxes or user fees.

The term includes a county, city, town, school district, fire district, transportation authority, port authority, conservancy district, and any other special purpose district or authority.

**Local zoning ordinance, decision, or other action-** any local government land or water use action which regulates or restricts the construction, alteration of use of land, water or structures. These actions include zoning ordinances, master plans, and official maps.

**Longshore -** Parallel to and near the shoreline.

**Motorboat-** a watercraft propelled by an internal combustion, steam, or electrical inboard or outboard motor or engine or by another mechanical means. The term includes a sailboat that is equipped with a motor or an engine when the motor or engine is in operation, whether or not the sails are hoisted. The term also includes a personal watercraft.

**Management program decision-** any major, discretionary policy decisions on the part of a management agency, such as the determination of permissible land and water uses, the designation of areas of particular concern or areas for preservation or restoration, or the decision to acquire property for public uses. Regulatory

actions which are taken pursuant to these major decisions are not subject to the State-local consultation mechanisms. A State management program decision is in conflict with a local zoning ordinance if the decision is contradictory to that ordinance.

**Municipality-** a city or town.

**National Environmental Policy Act (NEPA)-** 42 USC 4321, *et. seq.*

**Natural Resources Commission (NRC)-** established at IC 14-10-1-1, the NRC is a board that addresses issues pertaining to the Department of Natural Resources. Adjudication, rule adoption, and many other daily functions of the commission are performed through its Division of Hearings.

**Natural resource damages-** damages to land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other resources compensable under CERCLA (42 USC 960, *et. seq.*), the CWA (33 USC 125, *et. seq.*), or the Oil Pollution Act of 1990 (33 USC 2701, *et. seq.*).

**Natural resource trustee-** a person designated to assist in the administration of trust money received by the State of Indiana as compensation for natural resource damages. Included as trustees for Indiana are representatives from the U.S. Fish and Wildlife Service for Region 3, Indiana Department of Environmental Management, and the Indiana Department of Natural Resources.

**Nature preserve-** an area in which an estate, an interest, or a right has been formally dedicated under IC 14-31-1-11.

**Navigable waters-** a river, stream, or lake which was capable of commerce according to the general rules of waterway transportation in 1816. However, for the purposes of the Clean Water Act and IC 13-24-3, “navigable waters” has the meaning set forth at 33 USC 1362(7).

**Nonpoint source pollution-** water pollution that results from a variety of human activities such as soil erosion, agriculture, urban runoff, development, logging, resource extraction, and deposition from air pollution.

**Nonrule policy document-** an agency statement that interprets, supplements, or implements a statute and which has not been adopted as a rule (and is not intended by the agency to have the effect of law), but that may be used in conducting the agency’s external affairs. A nonenforceable policy under the CZMA is a nonrule policy document.

**Nourishment** - The process of replenishing a beach. It may be brought about naturally, by accretion due to the longshore transport, or artificially, by the deposition of dredged materials.

**Offshore** - The direction away from the shore, toward a large body of water. Onshore - The landward direction, away from the water.

**Ordinance-** a measure of local governance adopted by a county, municipality, or township under IC 36-1. The expressed policy of Indiana is to grant these local units all the powers needed to adopt ordinances for the effective operation of government as to local affairs. Excluded from these powers is the power to regulate activity that is regulated by a state agency, except as is expressly granted by statute.

**Ordinary high watermark-** the line on the shore of a river, stream, or lake established by the fluctuations of water and indicated by physical characteristics. Examples of these physical characteristics include the following:

- A clear and natural line impressed on the bank;
- Shelving;
- Changes in the character of the soil;
- The destruction of terrestrial vegetation;
- The presence of litter or debris.

For Lake Michigan, the ordinary high watermark defines the extent of the beach.

**Overtopping** - The passing of water over the top of a natural or man-made structure as a result of wave runup or surge.

**Person-** an individual, corporation, partnership, association, or other entity organized or existing under Indiana law. The term also includes the state, a state agency, and a local government entity.

**Permit-** means a license, franchise, certification, approval, registration, charter, or similar form of authorization that may be issued to a person by a state agency under Indiana law.

**Personal watercraft-** a watercraft: whose primary source of motive power is an inboard motor powering a water jet pump; and that is designed to be operated by a person who sits, stands, or kneels on the surface of the watercraft rather than sitting or standing inside the watercraft.

**Pesticide-** a substance or a combination of substances commercially produced for use as: an insecticide; a rodenticide; or a nematocide.

**Pile** - A long, heavy timber or section of concrete or metal that is driven or jetted into the earth or bottom of a water body to serve as a structural support or protection.

**Pollution prevention-** source reduction and other practices that reduce or eliminate the creation of pollutants through (1) increased efficiency in the use of raw materials, energy, water, or other sources; or (2) protection of natural resources by conservation.

**Potable water-** water that at the point of use is acceptable for human consumption under drinking water quality standards adopted by the water pollution control board.

**Public freshwater lake-** a lake that has been used by the public with the acquiescence of a riparian owner. The term does not include Lake Michigan, Wolf Lake in Hammond, or George Lake in Hammond.

**Public trust doctrine-** the obligation of the State to hold in trust sovereign resources, including the use of navigable waters, for the benefit of the general public, free from undue private interruption and encroachment.

**Rare species-**

1. an animal, other than an insect, where some problems of limited abundance or distribution in Indiana are known or suspected and should be closely monitored.

2. An insect where problems of limited abundance or distribution in Indiana are known or reasonably suspected including the following:
  - A species that is known to be rare in Michigan, Ohio, Illinois, or Kentucky;
  - A species that is biologically dependent upon a rare plant species;
3. A plant known to occur currently on eleven to 20 sites in Indiana.

A rare species of insect references an established population and does not include accidentals, adventive nonregulated species, or other species regulated under IC 14-24 and 312 IAC 18.

**Recycling-** a process by which materials that would otherwise become solid waste are: collected; separated or processed; and converted into materials or products for reuse or sale.

**Regulation-** a measure intended to have the force and effect of law and adopted by a federal agency under 5 USC 551 through 559.

**Regulatory flood-** a flood which has a peak discharge which can be expected to be equaled or exceeded on the average of once in a 100-year period, as calculated by a method and procedure approved by the Natural Resources Commission.

**Reliction-** the exposure of the bottom of a lake or stream as dry land due to the slow retreat of water.

**Revetment-** any hardened shoreline to protect softer land behind it. Revetments may be constructed of steel sheet piling, stone, concrete, wood or a combination of these.

**Riparian owner-** the owner of land, or the owner of an interest in land sufficient to establish the same legal standing as the owner of land, bound of a river, stream, or lake. The term includes a littoral owner.

**Rubble-** rough irregular fragments of broken rock.

**Runup -** The rush of water up a beach or structure, associated with the breaking of a wave. The amount of runup is measured according to the vertical height above still water level that the rush of water reaches.

**Rule-** a measure intended to have the force and effect of law and adopted by a state agency under IC 4-22-2; a state agency statement, designed to have the effect of law that implements, interprets, or prescribes either a law or policy or the organization, procedure, or practice requirements of the agency.

**SARA-** Title III of the Superfund Amendments and Reauthorization Act of 1986 (P.L. 99-499).

**Scour -** Removal of underwater material by waves and currents, especially at the base or toe of a shoreline structure

**Seawall -** A structure separating land and water areas, primarily designed to prevent erosion and other damage due to wave action. See also bulkhead.

**Sheet pile -** A pile with a generally slender, flat cross-section that is driven into the ground or bottom of a water body and meshed or interlocked with like members to form a wall or bulkhead.

**Shore** - The narrow strip of land in immediate contact with the water, including the zone between high and low water lines. See also backshore and foreshore.

**Significant ground water withdrawal facility**- the ground water withdrawal facility of a person that, in the aggregate from all sources and by all methods, has the capability of withdrawing at least one hundred thousand gallons of ground water in one day.

**Significant water withdrawal facility**- a water pumping installation or other equipment of a person that, in the aggregate from all sources and by all methods, has the capability of withdrawing at least one hundred thousand gallons of water in one day.

**Source reduction**- a practice which (1) reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream, or otherwise released into the environment (including fugitive emissions) prior to recycling, treatment, or disposal; and, (2) reduces the hazards to public health and the environment associated with the release of such substances, pollutants, or contaminants.

**Special area management plan**- a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies, standards and criteria to guide public and private uses of lands and waters, and mechanisms for timely implementation in specific geographic areas within the coastal area.

**State environmental impact statement**- a detailed statement by the official responsible for a major state action which considers the environmental impact of the proposed action, any adverse environmental impact which cannot be avoided if the proposal is implemented, alternatives to the proposed action, the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, and any irreversible and irretrievable commitments of resources which would be involved if the proposed action is implemented. To determine whether there is a need to prepare an environmental impact statement, an environmental assessment is often prepared first.

**Submerged Bulkhead**: an underwater structure designed to retain sand or landfill to the shore side. The lake bottom on the lake side is deeper. Submerged bulkheads are used to create plateaus or perched beaches.

**Subsidence**- the lowering or collapse of the land surface caused by natural and human-induced activities.

**Superfund**- CERCLA program.

**Surface water**- all water occurring on the surface of the ground. The term includes water in a stream; natural and artificial lakes; ponds; swales; marshes; and diffused surface water.

**Swale**- a slight depression, sometimes swampy, in the midst of generally level land.

**Tank system**- underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.

**Threatened species**-

1. an animal, other than an insect, which is likely to become an endangered species within the foreseeable future. Included are all species classified as threatened by the federal government which occur in Indiana.



2. an insect which is likely to become an endangered species within the foreseeable future, where any of the following conditions occur:
  - species which occurs in Indiana is classified as threatened by the federal government.
  - species is biologically dependent upon a rare or threatened plant species.
  - species is known from six to ten sites in Indiana.
3. a plant known to occur currently on six to ten sites in Indiana.

The discovery of a single life stage *in situ* is fiduciary evidence that a population exists. A threatened species does not include accidentals, adventive nonregulated species, nor any species subject to IC 14-24 and 312 IAC 18 (including a species used for biological control).

**Underground storage tank-** a tank or combination of tanks, including underground pipes connected to the tank or combination of tanks, that is used to contain an accumulation of petroleum or another substance regulated by IDEM under IC 13-23, the volume of which (including the volume of the underground connecting pipes) is at least 10% beneath the surface of the ground.

**Updrift** - The direction opposite that of the predominant movement of littoral materials.

**Ultimate authority-** an individual or panel of individuals in whom the final authority of an agency is vested. For IDEM, the “ultimate authority” is the Office of Environmental Adjudication. For DNR, the “ultimate authority” is the NRC or its Division of Hearings. For ISDH, the “ultimate authority” is the Executive Board or an appeals panel if designated by statute.

**Watercraft-** any instrumentality or device in or by means of which a person may be transported upon the public waters of Indiana. The term includes a motorboat, sailboat, rowboat, skiff, dinghy, or canoe of any length or size and whether or not used to carry passengers for hire.

**Water use-** a use, activity, or project conducted in or on waters within the coastal area.

**Wave height** - The vertical distance between a wave crest and the preceding trough.

**Wave length** - The horizontal distance between similar points on two successive waves (for example, crest to crest or trough to trough), measured in the direction of wave travel.

**Wild animal-** an animal whose species usually lives in the wild or is not domesticated.

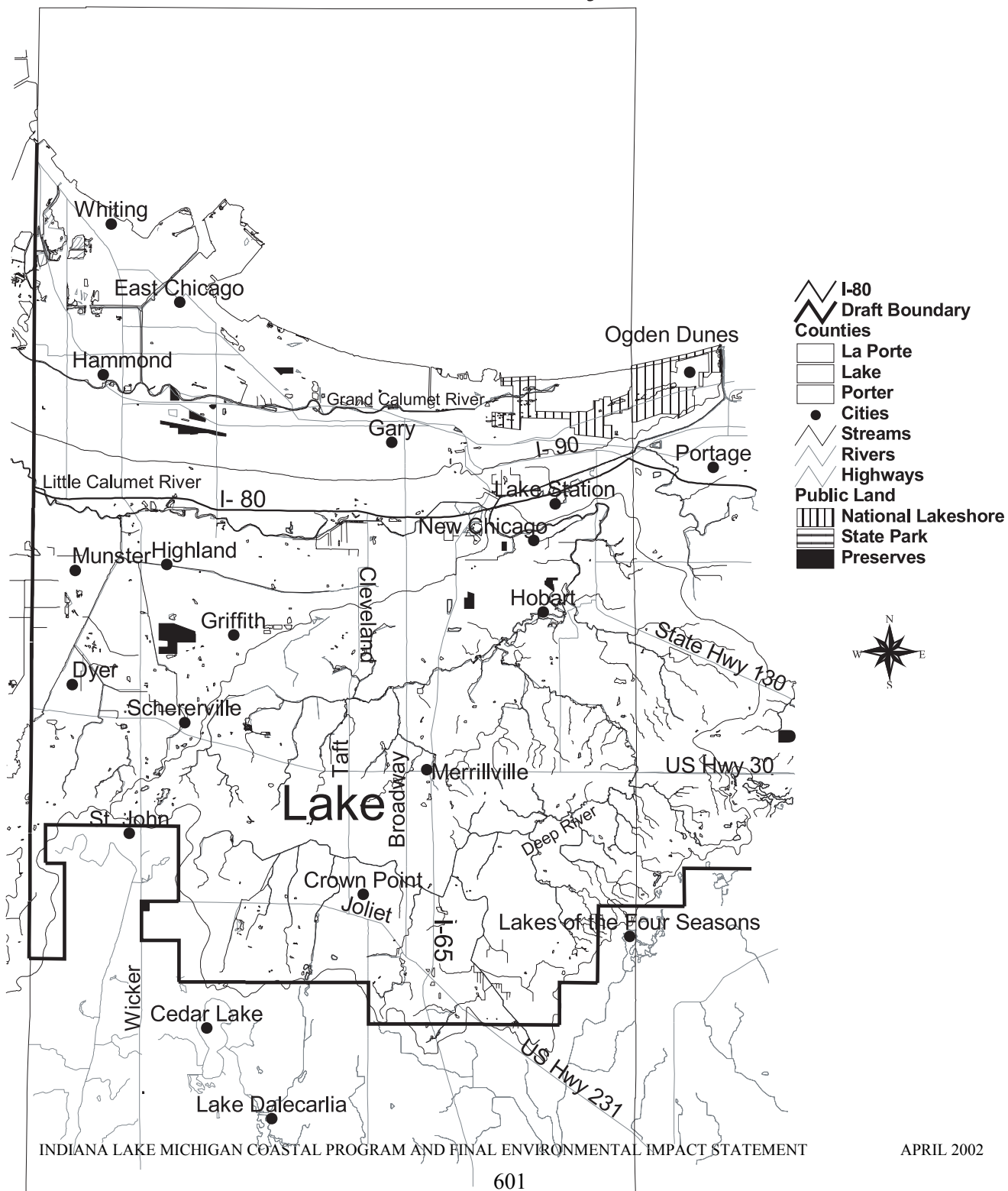
## Appendix B: List of Acronyms

ACOE	U.S. Army Corps of Engineers
AOC	Area of Concern
AOPA	Administrative Orders and Procedures Act
APC	Area of Particular Concern
BMP	Best Management Practices
CAA	Clean Air Act
CDF	Confined Disposal Facility
CERCLA	Comprehensive Environmental Response, Compensation, & Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DEIS	Draft Environmental Impact Statement
DNR	Indiana Department of Natural Resources
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHA	Federal Highway Administration
FWS	U.S. Fish and Wildlife Service
GIS	Geographic Information System
GLWQA	Great Lakes Water Quality Agreement
IAC	Indiana Administrative Code
IC	Indiana Code
IDEM	Indiana Department of Environmental Management
INDOT	Indiana Department of Transportation
IEPA	the Indiana Environmental Policy Act, IC 13-12-3 and IC 13-12-4
IREDB	Indiana Recycling and Energy Development Board
ISDH	Indiana State Department of Health
IURC	Indiana Utility Regulatory Commission
LMCP	Indiana Lake Michigan Coastal Program
ISTEA	Intermodal Surface Transportation and Efficiency Act
IGLD	International Great Lakes Datum
IJC	International Joint Commission
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NIRPC	Northwestern Indiana Regional Planning Commission
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System

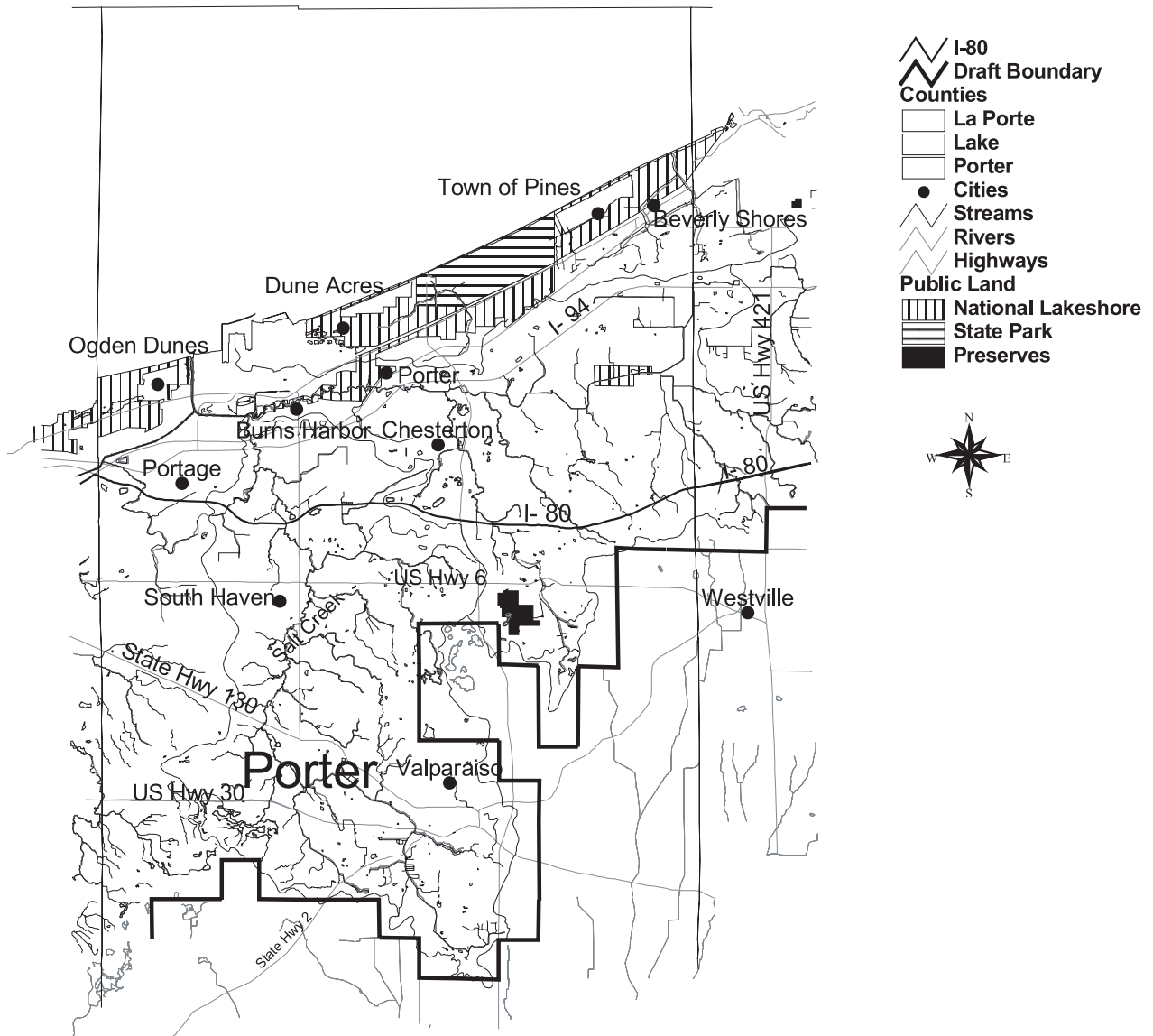
NPS	Nonpoint source pollution
NRCS	Natural Resources Conservation Service
OCRM	Office of Ocean and Coastal Resource Management
OHW	Ordinary high water mark
P/DEIS	Indiana Lake Michigan Coastal Program and Draft Environmental Impact Statement
P/FEIS	Indiana Lake Michigan Coastal Program and Final Environmental Impact Statement
RAP	Remedial Action Plan
RCRA	Resources Conservation and Recovery Act
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SDWA	Safe Drinking Water Act
SEMA	State Emergency Management Agency
SHPO	State Historic Preservation Officer
SWCD	Soil and Water Conservation District
USC	United States Code
USDA	U.S. Department of Agriculture
UST	Underground storage tank
WHPA	Well Head Protection Act

## **Appendix C: County Maps and Detailed Written Description of the Coastal Program Area**

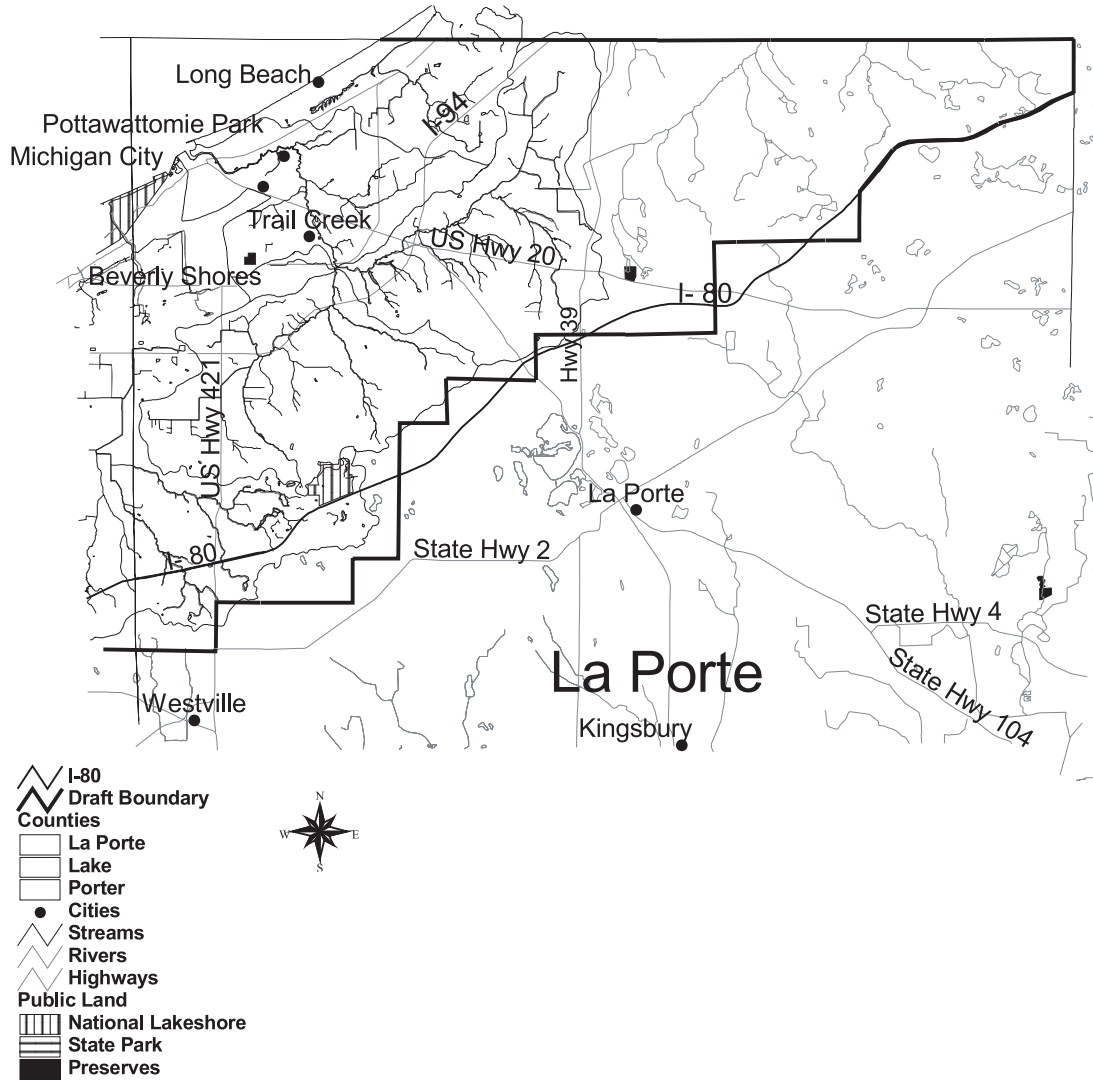
# Lake Michigan Coastal Program Area: Lake County



# Lake Michigan Coastal Program Area: Porter County



# Lake Michigan Coastal Program Area: La Porte County



## Detailed written description of the Coastal Program Area

Although the written description is cumbersome, the boundary can be easily determined using Quadrangle maps. Township, Range, and Section will be abbreviated as follows: Township 34 North, Range 2 West, Section 10 will be written as Section 10, T34N, R2W. Road names from the quadrangle maps will be used where needed. Figure 3.3 shows the Coastal Program's inland boundary.

### Lake County

On the Dyer Quadrangle, the inland boundary proceeds east from the State line along 125<sup>th</sup> Avenue to the east line of Section 13, T34N, R10W (Calumet Avenue). The boundary proceeds north along Calumet Avenue to the south line of Section 31 T35N, R9W. Then it proceeds west to Sheffield Avenue where the boundary proceeds north to the south line of Section 25 T35N R10W. The boundary then proceeds east along the south line of Section 25 T35N R10W and Section 30 T35N R9W onto the St. John Quadrangle. Then it continues east along the south line of Sections 30, 29, and 28 T35N R9W to the west line of Section 34 T35N 9W. Then it proceeds south along the west line of said Section 34 and the west line of Section 3 T34N R9W to the south line of Section 4 T34N R9W (109<sup>th</sup> Avenue). Then it proceeds west along 109<sup>th</sup> Avenue to the west line of Section 9 T34N R9W. Then the boundary proceeds south to the south line of Section 9 T35N R9W (117<sup>th</sup> Avenue) where it proceeds east to the west line of Section 10 T35N R9W (Parrish Avenue). The boundary then proceeds south to the south line of Section 15 T34 N R9W. There the boundary proceeds east on the south line of Sections 15, 14, 13 T35N R9W and Section 18 T35N R8W to the Crown Point Quadrangle. Then the boundary continues east to the east line of Section 20 T34N R8W. It then proceeds south along the east line of said Section 20 to the bottom of the Crown Point quadrangle. Then the boundary continues east along the bottom of the quadrangle (from 87 22'30" to 87 15' NAD27) to the east line of Section 30 T34N R7W. The boundary then proceeds north along the east line of said Section 30 and Section 19 T34N R7W to the south line of Section 17 T34N R7W then east along the south line of said Section 17 onto the Palmer Quadrangle. On the Palmer Quadrangle, the inland boundary continues east along the south line of Section 17, T34N, R7W to the east line of the same section. Then the boundary proceeds north along the east line of Sections 17 and 8 T34N R7W to the south line of Section 4, T34N R7W (109<sup>th</sup> Avenue) and then east along the south line of Sections 4 to the county line.

### Porter County

The inland boundary continues from the county line east along the south line of Section 3, T34N, R7W to the east line of the same section. Then north along the east line of Section 3, T34N, R7W to the south line of Section 35 T35N, R7W (Division Road). The boundary then proceeds east along the south line of Sections 35 and 36 T35N R7W to the east line of Section 36 T35N, R7W, then north to the south line of Section 30 T35N R6W (100 North Road). The boundary then proceeds east to the west line of Section 32 T35N R6W where it proceeds south to the south line of the same section (Division Road). The boundary then proceeds east on to the Valparaiso Quadrangle along the south line of said Section 32. It continues east along the south line of Sections 33 and 34 T35N R6W to the west line of Section 2 T34N R6W (100W Road). The boundary proceeds south to the south line of the said Section 2 and east along its south line to the west line of Section 12 T34N R6W. Then it proceeds south to the south line of Section 12 T34N R6W and then east along the south line of Sections 12 and 7 T35N R5W to the east line of said Section 7. The boundary then proceeds north to the south line of the Section 5 T35N R5W and east to the east line of said Section 5. Then north along the east line of said Section 5 and Sections 32 and 29 T35N R5W then west along the north line of said Section 20 to the south lone of Section 18 T35N R5W where it proceeds north along said Section 18 to the section's north line. The boundary then proceeds west along the north lone of Sections 18 and 13 T35N R5W to the east line of Section 11 T35N R6W. The boundary then proceeds north along the east line of Sections 11, 2, and 35 T35N R6W (Campbell Street) to



the south line of Section 25 T36N T6W. The boundary then proceeds east along the south line of said Section 25 and Section 30 T36N R5W (700 North) to the east line of Section 31 T36N R5W. The boundary then proceeds south along the east line of said Section 31 to the south line of Section 32 T36N T5W and then east to the east line of Section 5 T35N R 5W. The inland boundary then proceeds south along the east line of Sections 5 and 8 T35N R5W to the south line of said Section 8. Then the boundary proceeds along the north line of Section 16 T35N R5W to the east line of said Section 9 then north to the south line of Section 34 T36N R5W on the Westville Quadrangle. The boundary then proceeds east along the section's south line to its east line (500 East Road). Thence north along the east line of Sections 34, 27, and 22 T36N R5W. The boundary then continues east along the south line of Sections 14 and 13 T36N R5W to the county line.

### **LaPorte County**

From the county line on the Westville Quadrangle, the boundary proceeds east along the south line of Sections 18 and 17 T36N R4W to the east line of said Section 17 where it proceeds north to the south line of Section 9 T36N R4W. The boundary then proceeds east along the south line of said Section 9 into the LaPorte West Quadrangle. On the LaPorte West Quadrangle, the boundary proceeds east on the south line of Sections 10 and 11 T36N R4W to the east line of said Section 11 (700 West Road). Then it proceeds north to the south line of Section 1 T36N R4W thence east along the south line of said Section 1. Then it proceeds north along the east line of Section 1 T36N R4W and Sections 36 and 25 T37N R4W into the Michigan City East Quadrangle. The boundary continues north along the east line of said Section 25 then east along the south line of Section 19 T37N R3W. The boundary then proceeds north along the east line of said Section 19 thence east along the south line of Sections 17 and 16 T37N R3W. It continues north along the east line of said Section 16 then east along the south line of Section 10 onto the Springville Quadrangle. The boundary continues east along the south line of Sections 10, 11, and 12 T37N R3W and Section 7 T37N R2W thence north along the east line of Section 7 and 6 T37N R2W. Then the boundary proceeds east along Sections 32, 33, 34 T37N R2W into the New Carlisle Quadrangle. It continues north along the east line of said Section 34 then north-easterly along Highway 80/90 (East-West) to the county line. Then the boundary proceeds north along the county line to the Indiana-Michigan State line.

## **Appendix D: Memoranda of Understanding Between State Agencies**

## MEMORANDUM OF UNDERSTANDING REGARDING WATERWAY PERMITTING PROCESSES

This memorandum of understanding is entered between the Indiana Department of Environmental Management ("IDEM") and the Indiana Department of Natural Resources ("DNR") in order to embody and advance efforts to provide improved public service through more effective, coordinated permitting processes. The memorandum is prepared in direct response to resolutions by the Lake Michigan Marina Development Commission and by the Blue Ribbon Advisory Panel for Indiana's Lake Michigan Shoreline relative to permit coordination and streamlining, but it is also prepared with an understanding efficient government serves all citizens. The memorandum acknowledges current efforts within IDEM and the DNR to advance permit coordination and streamlining and is intended to support not conflict with those efforts.

Additionally, the memorandum acknowledges the critical roles of the Water Pollution Control Board ("WPCB") and the Natural Resources Commission ("NRC") in formulating policy relative to waterway regulation. Although the signatories to this memorandum are IDEM and DNR, advice and participation by the WPCB and NRC will be actively sought in order to most effectively implement its purposes. In addition, advice will be sought from the Lt. Governor's office and from other interested state agencies as the work process moves forward.

Accordingly, a memorandum of understanding is entered between IDEM and DNR by which:

- (1) IDEM and DNR agree to work toward better coordination and cooperation with each other.
- (2) A technical workgroup will be established to begin June 1, 1998 from IDEM and DNR to establish guidelines for early coordination of the permit process for projects directed to activities within:
  - A. Lake Michigan and its navigable tributaries.
  - B. Waterways permitting, generally, in Indiana where it is deemed more productive and more responsive to the two agencies and the applicant.

The technical workgroup will include three representatives from IDEM and three representatives from DNR. In each instance, two of the members will have a direct role in permitting functions. The third member will bring expertise from nonregulatory programs or as agency administrators. Participation of a representative will also be sought from the Lake Michigan Marina Development Commission and from the Blue Ribbon Advisory Panel. Finally, one advisor will be invited in Northwest Indiana from the regulated community and from the environmental community.

- (3) The technical workgroup will identify particular strategies to do the following:
  - A. Determine whether early coordination might be accomplished for a project to include the applicant and IDEM, DNR, and the Army Corps of Engineers (and, as appropriate, the U.S. Fish and Wildlife Service, the Environmental Protection Agency, and the U.S. Coast Guard).

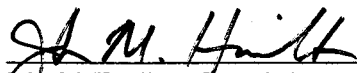
- B. Where not already available, establish a process for the applicant to request early permit coordination and negotiation to resolve any disagreements.
- C. Establish a measure of success of the joint permitting process, and whether the development of the joint permit application among IDEM, DNR, and the Army Corps is feasible.
- D. Determine whether other methodologies, supportive of streamlining and protective of the environment, should also be pursued.
- E. Pursue the creation of a Permit Handbook of all the permitting guidelines of IDEM, DNR, and the Army Corps and the Point of Contact for the various permits of each agency.

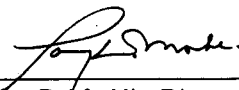
(4) The technical workgroup will report publicly upon its progress relative to these efforts by December 31, 1998.

(5) IDEM and DNR will jointly publish a permit handbook or brochure to assist local communities in Indiana.

(6) Coordination and cooperation of IDEM and DNR will become effective immediately on all projects where it is deemed appropriate by the applicant or one of the agencies.

APPROVED:

  
\_\_\_\_\_  
John M. Hamilton, Commissioner  
Indiana Department of Environmental Management  
Dated: 5/12/98

  
\_\_\_\_\_  
Larry D. Macklin, Director  
Indiana Department of Natural Resources  
Dated: \_\_\_\_\_

**Memorandum of Understanding  
Concerning the Interagency Shared Neutrals Program  
For Mediation**

This Memorandum of Understanding (MOU) establishes the Interagency Shared Neutrals Program among the: Department of Natural Resources (DNR), Indiana Department of Environmental Management (IDEM), Natural Resources Commission (NRC), Office of Environmental Adjudication (OEA), and State Emergency Management Agency (SEMA).

State agencies may engage in mediation. Mediation is defined as:  
“a process in which a neutral third person, called a mediator, acts to encourage and to assist in the resolution of a dispute between two (2) or more parties....The objective is to help the disputing parties reach a mutually acceptable agreement between or among themselves on all or any part of the issues in dispute. Decision making power rests with the parties, not the mediator. The mediator assists the parties in identifying issues, fostering joint problem-solving, exploring settlement alternatives, and in other ways consistent with these activities.” (Indiana Rules for Alternative Dispute Resolution, Rule 1.3)

**Benefits of a Shared Neutrals Program**

A Shared Neutrals Program can provide the basic structure to encourage mediation as a method of alternative dispute resolution. In Indiana, the Shared Neutrals program allows state agencies to share the expertise of trained mediators among agencies. Under the Shared Neutrals Program, each agency is able to request and use mediators from other participating agencies; additionally, each agency makes its mediators available to other agencies. Through this interagency agreement state agencies may take advantage of external expertise and resources, on a reciprocal basis, without additional expense.

The Interagency Shared Neutrals Program has many benefits, including:

- Mediation empowers citizens and agency employees by enhancing their understanding of the dispute while increasing their ability to influence the outcome;
- Mediation provides additional opportunities for citizens and agency employees to interact, diffuse conflict, and build more productive working relationships;
- Mediation becomes more readily accessible for agencies and private parties that cannot afford to hire private mediators;
- The perception of mediator impartiality is enhanced when a mediator comes from an agency that is neither a party nor the ultimate authority for a particular dispute;

- Parties are more likely to agree to mediation where they are assured of participation by a mediator who is (and gives the appearance of being) neutral, and where access to a mediator's services is without additional cost to them;
- Opportunities for agency personnel to use and refine their mediation and negotiation training and skills are increased.

#### **Appropriateness of Cases for Mediation**

This MOU applies to any proceeding that an ultimate authority has determined under IC 4-21.5-3.5-2 to be appropriate for mediation. In addition, this MOU applies to any matter that is exempt from IC 4-21.5 but where the agency elects to use mediation under IC 4-21.5-3.5-1. Each neutral must qualify as a mediator under IC 4-21.5-3.5-8.

#### **Administration**

Agencies will contact Steve Lucas of NRC to request a neutral under this MOU. The program will operate during the trial period without a highly structured and administratively intensive component.

#### **Choice of Mediator**

Mediators shall be chosen based on agreement by the mediating parties. In the absence of a specific request for or agreement upon a certain mediator, the administrative law judge assigned to the proceeding will determine the mediator, in accordance with IC 4-21.5-3.5-6.

#### **Agency/Neutral Participation**

Participation in this MOU does not require a neutral or an agency to participate in a particular mediation. A neutral or an agency that declines to participate is, however, encouraged but not required to communicate the reason for declining to a representative of the Indiana Conflict Resolution Institute (ICRI) for general tabulation in consultation. ICRI, based at the Indiana University School of Public and Environmental Affairs (SPEA) was established in 1997, and is dedicated to the understanding and expansion of conflict resolution in public and private arenas. ICRI will maintain confidential records regarding reasons for non-participation in the shared neutrals program.

#### **Costs and Expenses**

Participation in a particular mediation will be at no additional cost to the mediating agency. Although the services of the mediator are made available under this agreement at no cost to the requesting agency, any travel expenses of the mediator will be covered by the requesting agency. The mediating agency shall incur no additional external costs.

#### **Mediation Agreement**

A *Mediation Agreement* will be available for consideration and possible use by the neutral and the mediating parties. This agreement provides a general framework and reiterates the impartiality of the neutral and the confidentiality of the mediation session.

### **Trial Period**

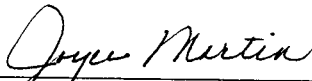
Individuals have expressed their desire initially not to require a strict monitoring and repayment system. For this reason, the shared neutrals program will be run on a trial basis through April 2000 and may be extended by mutual agreement of the parties.

### **Analysis**

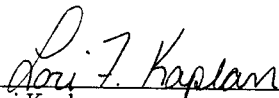
ICRI will conduct an evaluation of the program.

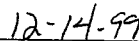
- Neutrals will complete a brief *Mediation Tracking Form* with their hours, the number of parties, whether there was settlement, and other non-confidential information and comments for general tabulation by ICRI.
- Mediating parties will be requested to complete an *Exit Survey* to provide constructive feedback for the mediator and the shared neutrals program. The survey will not seek the disclosure of information that, if disclosed, would compromise the integrity of any confidential matter shared during the mediation. The completed survey will be returned to ICRI for tabulation and sharing with the mediator.
- As soon as practicable after April 2000, ICRI will generate a report and provide feedback to the participants in the MOU. The report will include an analysis of the distribution of the mediations by each agency providing and receiving mediation services and an analysis of participant perceptions of the program as reflecting in the exit surveys. Additionally, the report will examine whether there is a need for increased structure in the program.

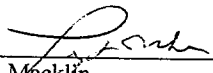
Signature of this MOU represents an agreement among the participating agencies to engage in the Interagency Shared Neutrals Program as described above.

  
\_\_\_\_\_  
Joyce Martin,  
Executive Assistant for the Environment  
Office of the Governor


  
\_\_\_\_\_  
Dec. 9, 1999

  
\_\_\_\_\_  
Lori Kaplan,  
Commissioner,  
Indiana Department of Environmental Management

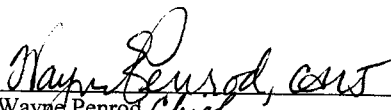
  
\_\_\_\_\_  
12-14-99

  
\_\_\_\_\_  
Larry D. Macklin,  
Director,  
Indiana Department of Natural Resources

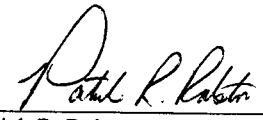
1/4/00

  
\_\_\_\_\_  
Steve Lucas,  
Administrative Law Judge,  
Natural Resources Commission

January 4, 2000

  
\_\_\_\_\_  
Wayne Penrod *Chief*,  
Administrative Law Judge,  
Office of Environmental Adjudication

January 4, 2000

  
\_\_\_\_\_  
Patrick R. Ralston,  
Executive Director,  
State Emergency Management Agency

January 6, 2000



## **Appendix E: List of Federal Agencies Receiving the Lake Michigan Coastal Program Document and Draft Environmental Impact Statement**

### **Letter Sent to Federal Agencies**

Division of Water  
402 W. Washington St. Rm W2264  
Indianapolis, Indiana 46204-4579  
PH: (317) 232-4160  
FAX: (317) 233-4579

September 24, 2001

Dear Reviewer:

Enclosed for your review and consideration is the Indiana Lake Michigan Coastal Program Document/Draft Environmental Impact Statement (P/DEIS). The P/DEIS is the second draft document released for public input. It describes the Indiana Lake Michigan Coastal Program (LMCP) and details how the program meets the requirements to participate in the Coastal Zone Management Program in partnership with the National Oceanic and Atmospheric Administration (NOAA). Chapter 15 details the public comments received and any changes made since the first document was released. The P/DEIS will form the basis for the Final Environmental Impact Statement

The LMCP was developed on the strength of Indiana's existing state laws and programs. The benefits of participation in the Coastal Zone Management Program include improved coordination in the management of natural and cultural resources of the coastal region, funding for projects and programs that address coastal resource protection and development, and technical assistance to address the coastal resource concerns of northwest Indiana.

Written comments on the P/DEIS should be submitted by November 5, 2001 to either:

John King

Chief, Coastal Programs Division  
National Oceanic and Atmospheric  
Administration  
SSMC4, Room 11537  
1305 East-West Highway  
Silver Spring, MD 20910

Laurie Rounds

Attn: Indiana Lake Michigan Coastal  
Program Comments  
Indiana Department of Natural Resources  
402 West Washington Street; Room W264  
Indianapolis, IN 46204



The Indiana Department of Natural Resources and NOAA will hold public hearings to accept comments on the P/DEIS. These meetings will be held at 7 p.m. local time at the following locations:

- October 1, 2001            Holiday Inn            5280 S. Franklin Street, Michigan City, Indiana
- October 3, 2001            Wicker Park            8554 Indianapolis Boulevard, Highland, Indiana
- October 4, 2001            Portage Yacht Club    1370 State Road 249, Portage, Indiana

In addition, the Department of Natural Resources will hold an open house on October 2, 2001 at the Indiana Dunes State Park Nature Center from 3:00 p.m. to 7:00 p.m. Indiana Dunes State Park is located at 1600 North 25 East; Chesterton, Indiana. Representatives of the Department of Natural Resources will be available during the open house to answer questions about the Lake Michigan Coastal Program. There will also be copies of the P/DEIS and other program documents available.

For additional information on the P/DEIS, please feel free to contact me at (317) 233-0132; or you may call toll free in Indiana at (877) 928-3755. Additional information and program documents are available at <http://www.in.gov/dnr/lakemich> .

Sincerely,

Laurie Rounds  
Lake Michigan Coastal Program

## List of Federal Agencies Receiving P/DEIS

Ms. Pearl Young  
Director, Office of Federal Activities (2251)  
Environmental Protection Agency  
NEPA Compliance Division  
Mail Code 2252-A, 401 M Street, SW  
Washington, D.C. 20460

Robert H. Wayland III  
Director  
Office of Wetlands, Oceans and Watersheds  
U.S. Environmental Protection Agency  
401 M Street S.W. Mail Stop 4501-F  
Washington, D.C. 20460

Jim Burgess  
Chief  
Office of Habitat Conservation, F/HP1  
SSMC3 Rm. 12752  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910

David Evans  
Deputy Assistant Administrator  
SSMC3 Rm. 14564  
National Marine Fisheries Service, FX1  
1315 East-West Highway  
Silver Spring, MD 20910

Richard Legatski  
HDQ Legislative Affairs  
HCHB Rm. 5221  
14<sup>th</sup> and Constitution  
Washington, DC 20230

Margaret Davidson  
Director  
Coastal Services Center  
2224 South Hobson Avenue  
Charleston, S.C. 29405-2413

Ronald C. Baird  
National Sea Grant Program  
R/OR1 MD1000  
SSMC3 Rm. 11716  
1315 East-West Highway  
Silver Spring, MD 20910

Connie Barclay  
Public Affairs Office  
National Ocean Service  
Rm. 13231, SSMC 4  
1305 East-West Highway  
Silver Spring, MD 20910

Director  
Office of Environmental Policy and Compliance  
US Department of the Interior  
Mail Stop 2340  
1849 C Street N.W.  
Washington, D.C. 20240

Committee Chair  
Senate Committee on Commerce, Science  
and Transportation Subcommittee on  
Oceans and Fisheries  
428 Senate Hart Office Building  
Washington, D.C. 20510

Committee Chair  
Senate Subcommittee on Oceans and Fisheries  
566 Dirksen Senate Office Building  
Washington, D.C. 20510

Committee Chair  
House Resources Committee  
Subcommittee on Fisheries,  
Ocean and Wildlife  
805 O'Neill House Office Building  
Washington, D.C. 20515

Mr. Chris Mann  
522 O'Neill House Office Building  
Washington, D.C. 20515

Director  
Federal Emergency Management Agency  
Federal Center Plaza, Room 832  
500 C Street, S.W.  
Washington, DC 20472

Director  
Council on Environmental Quality  
722 Jackson Place, NW  
Washington, DC 20503

Chief  
Environmental Planning Division  
U.S. Army Corps of Engineers  
CECW-PF  
20 Massachusetts Avenue, N.W.  
Washington, D.C. 20314-1000

Deputy for Natural Resources  
ODASD(E)  
Department of Defense  
400 Army Navy Drive, #206  
Arlington, VA 22202-2884

Office of Chief of Naval Operation (OP-44EP1)  
Department of the Navy  
Hoffman Building II Room 10N67  
200 Stovall St.  
Washington, D.C. 20585

Mr. Dave Van Gasbeck, Chief  
Environmental Planning Division  
Department of the Air Force  
The Pentagon, 5D381  
Washington, DC 20330-1000

Director  
Office of NEPA Oversight  
Department of Energy  
Room 3E-080, GBO96-B  
1000 Independence Avenue, SW  
Washington, DC 20585

Associate General Counsel  
Federal Energy Regulatory  
Commission, Room 9118  
888 1st Street, NE  
Washington, D.C. 20426

Safety Manager  
Department of Health and Human Services  
Cohen Building, Room 4713  
200 Independence Avenue, S.W.  
Washington, D.C. 20201

Environmental Coordinator  
Ecosystem Management Staff  
U.S. Forest Service  
Department of Agriculture  
Auditors Building  
201 14th Street, S.W.  
Washington, DC 20250

Environmental Coordinator  
Natural Resources Conservation Service  
P.O. Box 2890 Rm. 6159  
Washington, DC 20013

Director  
Office of Environment and Energy  
Department of Housing and Urban Development  
451 Seventh Street, S.W.  
Washington, D.C. 20410-7000

Chief  
Environmental and Natural Resources Division  
Department of Justice  
8th Floor, Room 870  
Washington, DC 20530

Administrator  
Federal Aviation Administration  
Room 3212 Nassif Building  
400 Seventh Street, SW  
Washington, DC 20590

Office of Technology Assessment  
Maritime Administration  
Code 820, Room 7209  
400 Seventh Street, SW  
Washington, D.C. 20590

Mr. David Reese  
Environmental Protection Branch  
United States Coast Guard  
2100 2nd Street, SW  
Washington, D.C. 20593

Ron Kilroy  
CMDT (G-LEL)  
U.S. Coast Guard  
2100 Second Street, S.W.  
Washington, D.C. 20593

Amy Brown, Office of General Counsel (LR)  
General Services Administration  
18th & F St., N.W. Rm 4134  
Washington, D.C. 20405

Hampton Newsome  
Nuclear Regulatory Commission  
Office of General Counsel  
Mail Stop 15B-18  
Washington, DC 20555

Assistant Secretary for Economic Development  
Economic Development Administration  
U.S. Department of Commerce  
Herbert C. Hoover Building  
14th Street and Constitution Avenue, N.W.  
Washington, DC 20230

Director  
Federal Maritime Commission  
800 North Capitol Street, N.W.  
Washington, DC 20573

Daniel Injerd, Chief  
Lake Michigan Management Section  
Illinois Dept. of Transportation  
Division of Water Resources  
310 South Michigan Avenue, Rm 1606  
Chicago, Illinois 60604

Anthony McDonald  
Executive Director  
Coastal States Organization  
444 N. Capitol Street, NW  
Suite 322  
Washington, DC 20001

Chief of Naval Operations  
Crystal Plaza #5, Room 680  
2211 South Clark Place  
Arlington, VA 22244-5108

Kimberly Depaul

Office of Chief of Naval Operations (N456)  
Crystal Plaza 5, Room 680  
Arlington, VA 22244-5108

Charles W. Challstrom  
NCRP N/CG1 SSMC3 Rm. 8657  
1315 East-West Highway  
Silver Spring, MD 20910

Gary Matlock  
National Centers for Ocean Science  
SSMC4 13th Floor  
1305 East-West Highway  
Silver Spring, MD 20910

Dr. Michael J. Donahue  
Great Lakes Commission  
The Argus II Building  
400 S. Fourth Street  
Ann Arbor, MI 48103

Kevin Pierard  
Watersheds and Nonpoint Source Branch  
Water Division, EPA  
77 W. Jackson Blvd.  
Chicago, IL 60604

Kevin E. Heanue, HEP-1  
Director, Office of Environment and Planning  
Federal Highway Administration, Room 3212  
400 7th Street, S.W.  
Washington, DC 20590

## Appendix F: List of Local, State, and Federal Agencies and Organizations Receiving Information During the Public Comment Period for the LMCP Scoping Document and P/DEIS

TITLE	ORGANIZATION
Quality Control Department	American Maize Products Co.
Director	Aquatic Resources Institute
MCACC member	B & E Marine
Attorney	Beckman, Kelly and Smith
Administrator	Bethlehem Steel Corp, Burns Harbor Division
Environmental Affairs	Bethlehem Steel Corp, Burns Harbor Division
Council Members	Beverly Shores Council
Council President	Beverly Shores Council
Owner	Blue Water Bait & Tackle
Hunting/Fishing License Dealer	Blyth's Sports Shop
Hunting/Fishing License Dealer	Briar East True Value
Environmental Affairs	British Petroleum-AMOCO Refinery
Park Manager	Buckley Homestead County Park
Director	Burns Harbor Activity Assoc.
Council Member	Burns Harbor Council
Council President	Burns Harbor Council
President	Calumet Colleges St. Joseph
Executive Director	CDC of Greater Michigan City
Town Manager	Cedar Lake- Town of
Director	Chanute Aquatorium Society
NIRPC Executive Board	Chesterton Clerk-Treasurer
Council President	Chesterton Town Council
Reporter	Chesterton Tribune
President	Citizens for Rail Trails
Director	Colonial Williamsburg Foundation
Director	Copywrite Communications LLC
Owner	Country Bait Shop
Executive Director	Crown Point Chamber of Commerce
Mayor	Crown Point City Hall
Owner/Operator	Dawn to Dusk
Owner	Doyne's Marine, INC.
Council Members	Dune Acres Town Council
Council President	Dune Acres Town Council
President	Duneland Beach Association
Executive Director	Duneland Chamber of Commerce
Executive Committee Member	Duneland Sierra Club
Program Director/Ecologist	Duneland Sierra Club
Plant Manager	DuPont Chemicals
President	Dyer Chamber of Commerce
Administrator	Dyer Planning/Zoning Administrator
Council Vice President	Dyer Town Council
Town Council Members	Dyer Town Council

<b>TITLE</b>	<b>ORGANIZATION</b>
Director of Parks and Recreation	Dyer- Town of
Council Member At-Large	East Chicago City Council
Council Members	East Chicago City Council
City Engineer	East Chicago- City of
Mayor	East Chicago- City of
Planner	East Chicago- City of
Superintendent	East Chicago Parks & Recreation
City Planner	East Chicago Planning Department
Public Information	East Chicago Public Library
Director	East Chicago Public Transit
Director	East Chicago Waterway Management District
Director	Economic Dev. Planning
Hunting/Fishing License Dealer	Fetlas Bargain Center
Member	Foundations of East Chicago
Information Officer	Friends of Indiana Dunes
Store Manager	Gander Mountain
Assistant Director	Gary Air & Land Pollution Control
Director	Gary Boat & Yacht Club
Executive Director	Gary Chamber of Commerce
Attorney	Gary City Council
Council Member At-Large	Gary City Council
Council Members	Gary City Council
Chief of Staff	Gary- City of
City Engineer	Gary- City of
City Planner	Gary- City of
Director of Planning	Gary- City of
Director of Public Works	Gary- City of
Director, Parks Dept.	Gary- City of
Environmental Consultant	Gary- City of
Mayor	Gary- City of
Waterfront Development Special Assistant to the Mayor	Gary- City of
New Department	Gary Crusader
Member	Gary Historical and Cultural Society
Resource Manager	Gary Public Library-- Indiana Room
Director of Operations	Gary Public Transportation Corporation
Executive Director	Grand Calumet Task Force
President	Great Lakes Cons., Rod and Gun Club
President	Great Lakes Engineering, L.L.C
Managing Editor	Great Lakes Publishing
President	Griffith Chamber of Commerce
Griffith Historical Society	Griffith Historical Park and Museum
Council Members	Griffith Town Council
Council President	Griffith Town Council
Griffith Clerk-Treasurer	Griffith Town Hall
Executive Vice President	Hammond Chamber of Commerce
Council Members	Hammond City Council
Asst. Chief Engineer	Hammond- City of



<b>TITLE</b>	<b>ORGANIZATION</b>
City Controller	Hammond- City of
City Engineer	Hammond- City of
City Planner	Hammond- City of
Director Economic Development	Hammond- City of
Director of Development	Hammond- City of
Mayor	Hammond- City of
Director	Hammond Department of Environmental Management
Director	Hammond Environmental Health Department
Director	Hammond Marina
Superintendent	Hammond Parks & Recreation
President	Hammond Parks Board
Director	Hammond Public Library
Hammond Historical Society	Hammond Public Library
Representative Rebecca Gutowsky	Hammond Representative
Director	Hammond Transit System
License Dealer	Hebron Marathon
Council Members	Hebron Town Council
Executive Director	Highland Chamber of Commerce
President	Highland Historical Society
Council President	Highland Town Council
Director of Public Works	Highland- Town of
President	Historic Landmarks Foundation of Indiana
Executive Director	Hobart Chamber of Commerce
City Engineer	Hobart- City of
Mayor	Hobart- City of
Recreation Director	Hobart- City of
President	Hobart Historical Society
Director	Hobart Water Watchers
Captain	Holly Lynn Fishing Charters
President	Hoosier Coho Club
Executive Director	Hoosier Environmental Council
Director	Hoosier Prairie Committee
Director	IL-IN Sea Grant Program
NW Indiana Representative	IL-IN Sea Grant Program
President	Indiana B.A.S.S. Federation
Director, Community Dev. Div.	Indiana Department of Commerce
Director, Tourism & Film Dev.	Indiana Department of Commerce
Commissioner	Indiana Department of Environmental Management
Director, Northwest Office	Indiana Department of Environmental Management
Commissioner	Indiana Department of Transportation
Deputy Commissioner	Indiana Department of Transportation
District Director	Indiana Department of Transportation LaPorte Director
Management Assistant	Indiana Dunes National Lakeshore
Superintendent	Indiana Dunes National Lakeshore
Director, Development and Natural Resources Division	Indiana Farm Bureau
Field Representative- Lake and Porter Counties	Indiana Farm Bureau
Field Representative- LaPorte County	Indiana Farm Bureau

<b>TITLE</b>	<b>ORGANIZATION</b>
President	Indiana Farm Bureau
Associate Director	Indiana Geological Survey
Executive Director	Indiana Port Commission
Port Director	Indiana Port Commission
Associate Editor	Indiana Prairie Farmer
Environmental Sec. Liaison	Indiana State Bar Assoc.
State Health Commissioner	Indiana State Department of Health
Executive Director	Indiana State Emergency Management Agency
State Treasurer	Indiana State Treasurer's Office
Chancellor	Indiana University Northwest
Calumet Regional Archivist	Indiana University Northwest Library
Executive Director	Indiana Wildlife Federation
Outdoor Editor	Indianapolis Star
President	Indiana's North Coast Charter Association
Senior Editor	INGroup
Manager, Safety & Environ. Affairs	Inland Steel Company
Director	International Friendship Gardens
International Vice President	International Longshoremen's Association
Manager of Environmental Projects	Ivy Tech Community College
Indiana Division President	Izaak Walton League
Treasurer	Jack's Loan Office, INC
Owner	Jim Shema's Outdoor Sports
Owner	Kempf Gun Shop
Clerk Treasurer	Kingsford Heights Clerk-Treasurer
Public Relations	Kouts Chamber of Commerce
Council Member	Kouts Town Council
Representative	Lake County Central Labor Union
County Commissioners	Lake County Commission
Board Member	Lake County Convention and Visitors Bureau
Executive Director	Lake County Convention and Visitors Bureau
Council Members	Lake County Council
Council President	Lake County Council
Director	Lake County Courthouse Foundation
President	Lake County Fish and Game Protective Assc.
Lake County Treasurer	Lake County Government Center
Director	Lake County Historical Society
Director	Lake County Parks & Recreation Department
Superintendent	Lake County Parks & Recreation Department
Director	Lake County Planning Commission
Director	Lake County Public Library
Resource Conservationist	Lake County S.W.C.D.
Director	Lake County Sheriff's House Foundation
Executive Director	Lake County Solid Waste District
Surveyor	Lake County Surveyor's Office
Treasurer	Lake County Treasurer
Director	Lake Michigan Federation
President	Lake Michigan Sport Fishing Coalition

<b>TITLE</b>	<b>ORGANIZATION</b>
Owner	Lake Michigan Tackle
President	Lake Station Chamber of Commerce
Council Members	Lake Station City Council
Councilman at Large	Lake Station City Council
Fire Chief and Council Member	Lake Station City Council
City Engineer	Lake Station- City of
Clerk Treasurer	Lake Station- City of
Mayor	Lake Station- City of
Superintendent, Parks & Recreation Dept.	Lake Station- City of
President	Lake Station Historical Society
Owner	Lakeside Sports
Mayor	LaPorte- City of
County Planner/ Human Resource Director	LaPorte County
Historian	LaPorte County
County Commissioners	LaPorte County Commission
Community Relations Coordinator	LaPorte County Convention and Visitors Bureau
Director	LaPorte County Convention and Visitors Bureau
Executive Director	LaPorte County Convention and Visitors Bureau
Council Members	LaPorte County Council
Council President	LaPorte County Council
LaPorte County Surveyor	LaPorte County Courthouse
President	LaPorte County Historical Society, Inc.
Superintendent	LaPorte County Parks Department
Surveyor	LaPorte County Surveyor
Secretary	LaPorte County SWCD
Manager of Environmental Compliance	LaSalle Steel Company
President	Latino Historical Society
Assoc. Director of Transportation	LCEOC, Inc.
Information Officer	League of Women Voters
Owner	Lefty's Coho Landing, Inc.
Plant Manager	Lever Brothers Company
Hessville Historical Society	Little Red Schoolhouse
Council Members	Long Beach Town Council
Council President	Long Beach Town Council
Director of Administration	Lowell- Town of
Manager	LTV Steel
Hunting/Fishing License Dealer	Main Street Outdoor Sports
President	Marktown Preservation Society
President	Merrillville Chamber of Commerce
Council Members	Merrillville Town Council
Council President	Merrillville Town Council
Merrillville Clerk Treasurer	Merrillville- Town of
Merrillville Town Manager	Merrillville- Town of
President	Merrillville, Ross Twp. Historical Society
NIRPC-EMPC Member	Methodist Hospital
Council Members	Michiana Council
Council President	Michiana Council

<b>TITLE</b>	<b>ORGANIZATION</b>
President	Michiana Steelheaders
Mayor	Michigan City
Member Services Coordinator	Michigan City Chamber of Commerce
President	Michigan City Charter Association
Captain	Michigan City Charter Boat Association
Council Member At-Large	Michigan City Council
Council Members	Michigan City Council
Council President	Michigan City Council
President	Michigan City Historical Society, Inc.
Reporter	Michigan City News Dispatch
Superintendent	Michigan City Parks & Recreation
Director	Michigan City Port Authority
Owner	Mik-Lurch Bait & Tackle
NIRPC-EMPC Member	Mirant Industry
Executive Director	Munster Chamber of Commerce
Director, Parks & Recreation Dept.	Munster- City of
Munster Clerk-Treasurer	Munster Clerk-Treasurer's Office
President	Munster Historical Society
Council Members	Munster Town Council
Council President	Munster Town Council
Town Engineer	Munster- Town of
Town Manager	Munster- Town of
Chairman	Natural Resources Commission
Commission Members	Natural Resources Commission
Lake Michigan Regional Program Director	Nature Conservancy
State Director	Nature Conservancy
Council Members	New Chicago Council
Council President	New Chicago Council
Clerk Treasurer	New Chicago Water
Director of Marketing and Planning	NICTD
General Manager	NICTD
Executive Director	NIRPC
NIRPC Commission Members	NIRPC Commission
Coordinator	NiSource
Environmental Coordinator	NiSource
Environmental Specialist	NiSource
Program Leader	NiSource
Economic Development	Northwest Indiana Forum
Environmental Consultant	Northwest Indiana Forum
President	Northwest Indiana Forum
President	Northwest Indiana Genealogy Society
Director	Northwest Indiana Steelheaders
Underground Railroad	Northwest Region
Senior Administrative Assistant	Northwestern Indiana Regional Planning Commission
Trails Interest	NW IN Trails Advocate
President	NW Indiana Bass
Coordinator	NWIN Brownfields Redev. Project Inc.

<b>TITLE</b>	<b>ORGANIZATION</b>
Director of Natural Resources	Office of Communications of Agriculture
Executive Assistant	Office of Lt. Governor
Lieutenant Governor	Office of the Lieutenant Governor
Council Members	Ogden Dunes Council
Council President	Ogden Dunes Council
Director	Old Lighthouse Museum
Editor	Outdoor Writers
Captain	Pair A Dice Charters, INC
Director	Pastrick Marina
Vice President	Perch America
Councilman	Pines Clerk-Treasurer
Council Members	Pines Town Council
Council President	Pines Town Council
Executive Director	Portage Chamber of Commerce
City Engineer	Portage- City of
Superintendent	Portage Parks & Rec. Dept.
Director	Portage Port Authority
Director	Portage Public Marina
Council Member At-Large	Portage Town Council
Council Members	Portage Town Council
City Clerk	Portage Town Hall
Mayor	Portage- Town of
Assessor	Porter County Assessor
County Commissioner	Porter County Commission
Chairman, Visitor Center Committee	Porter County Convention, Recreation & Visitors Commission
Director	Porter County Convention, Recreation & Visitors Commission
Director, Public Relations	Porter County Convention/Rec Comm.
Council Member At-Large	Porter County Council
Council Members	Porter County Council
Council President	Porter County Council
Administrator	Porter County Extension Office
Porter County Commissioners	Porter County Hall
Porter County Treasurer	Porter County Hall
Chapter Contact	Porter County Izaak Walton League
Superintendent	Porter County Parks
Director	Porter County Planning
Director	Porter County Solid Waste District
Surveyor	Porter County Surveyor
District Administrator	Porter County SWCD
Coordinator	Porter County. Environ. Dept.
Executive Director	Porter Plan Commission
Council Members	Porter Town Council
Council President	Porter Town Council
Director, Public Works	Porter- Town of
City Planner	Porter- Town of; Plan Commission
Publisher	Post-Tribune
Reporter	Post-Tribune

<b>TITLE</b>	<b>ORGANIZATION</b>
President	Potawatomi Audubon Society
Chairman	Purdue CES
LaPorte County Extension Office	Purdue CES
President	Purdue University Calumet
President	Purdue University North Central
Professor of Biology	Purdue University North Central
Hunting/Fishing License Dealer	Qwik Step Outdoors
Hunting/Fishing License Dealer	Range Master Outfitters, INC.
Co-Owner	Reel Deal Bait & Tackle
Woodlands Communications Group	Region Watch
Assistant Director	Rogers- Lakewood Park
Owner	Rudy's Bait Shop
Member	S.T.O.P
President	Salmon Unlimited Indiana
Treasurer	Salmon Unlimited of Indiana
Director	Save the Dunes Conservation Fund
Executive Director	Save the Dunes Council
President	Schererville Historical Society
Council President	Schererville Town Council
Town Manager	Schererville- Town of
Council President	Schneider Town Council
Executive Director	Shirley Heinze Environmental Fund
Trustee	Shirley Heinze Fund Trustee
Coordinator	South Shore Clean Cities Coalition
President	Sportsmen of Northern Indiana
Council President	St. John Town Council
Manager	Stan's Bait and Tackle
Representative Charles F. Dobis	State Representative
Representative Charlie Brown	State Representative
Representative Dan Stevenson	State Representative
Representative Daniel Dumezich	State Representative
Representative Duane Cheney	State Representative
Representative Earl Harris	State Representative
Representative Gary Cook	State Representative
Representative John Aguilera	State Representative
Representative John Pugh	State Representative
Representative Linda Lawson	State Representative
Representative Mary Kay Budak	State Representative
Representative Mel Fath	State Representative
Representative Michael D. Smith	State Representative
Representative Paul Doherty	State Representative
Representative Ralph D. Ayres	State Representative
Representative Robert Kuzman	State Representative
Representative Roger Chiabai	State Representative
Representative Vernon G. Smith	State Representative
Representative Scott D. Pelath	State Representative
Senator Anita O. Bowser	State Senator

TITLE	ORGANIZATION
Senator Earline Rogers	State Senator
Senator Frank Mrvan, Jr.	State Senator
Senator Rose Ann Antich	State Senator
Senator Sam Smith, Jr.	State Senator
Senator Sue Landske	State Senator
Senator William Alexa	State Senator
Environmental Reporter	The Times
Executive Editor	The Times
Staff Writer	The Times
Clerk Treasurer	Trail Creek Clerk Treasurer
Council Members	Trail Creek Town Council
Council President	Trail Creek Town Council
Chicago District	U.S. Army Corps of Engineers
Louisville District	U.S. Army Corps of Engineers
State Director	U.S. Coast Guard Auxiliary
Director	U.S. Dept. of Commerce
Regional Team Manager	U.S. EPA - Region 5
Director	U.S. EPA, Great Lakes Nat'l Program Office
Division Administrator	U.S. Federal Highway Admin.
Biologist	U.S. Fish & Wildlife Service
Supervisor	U.S. Fish & Wildlife Service
Water Resources Division	U.S. Geological Survey
Biologist	U.S. National Biological Survey
State Conservationist	U.S. Natural Resources Conservation Service
District Conservationist	U.S. NRCS
Resource Conservationist, LaPorte County	U.S. NRCS District USDA
Representative Peter J. Visclosky	U.S. Representative
Representative Tim Roemer	U.S. Representative
Senator Richard Lugar- District Office	U.S. Senator
Senator Richard Lugar- Washington D.C. Office	U.S. Senator
Senator Evan Bayh	U.S. Senator District Office
Senator Evan Bayh	U.S. Senator Washington Office
Environmental Control	U.S. Steel
Environmental Control	U.S. Steel
Environmental Technician	Union Carbide Industrial
Director	Urban Enterprise Association
President	Urban League of NWI, Inc.
Manager, Government Affairs	USX Corp., Gary Works
President	Valparaiso Chamber Of Commerce
Council Member At-Large	Valparaiso City Council
Council Member President	Valparaiso City Council
Council Members	Valparaiso City Council
City Engineer	Valparaiso- City of
Director, Parks & Recreation Dept.	Valparaiso- City of
Economic Development Planner	Valparaiso- City of
Historic Preservation Commission Member	Valparaiso- City of
Mayor	Valparaiso- City of

<b>TITLE</b>	<b>ORGANIZATION</b>
Public Information	Valparaiso Public Library
President	Valparaiso University
President	Veterans Memorial Parkway Commission
Town Council President	Wanatah City Council
Representative	Wanatah Representative
Harbor Master	Washington Park Marina
Owner	Westforth Sports
Executive Director	Whiting Chamber of Commerce
Council Members	Whiting City Council
Council President	Whiting City Council
City Engineer	Whiting- City of
City Planner	Whiting- City of
Mayor	Whiting- City of
Director	Whiting-Robertsdale Historical Society
Council President	Winfield Town Council
Director	Wings Over Water



## Appendix G: Coastal Processes Affecting Indiana's Lake Michigan Shoreline

Lake Michigan is the second largest of the Great Lakes and lies entirely within the United States. It borders 4 states, Michigan, Wisconsin, Illinois and Indiana (Figure 1). Lake Michigan covers 234.5 square miles of the northwest corner of the state of Indiana, and 45 miles of its coast are also within the state boundaries.



**Figure 1:** States surrounding Lake Michigan

The physiography of the Lake Michigan drainage basin is the expression of surficial sediments deposited during the late Pleistocene and Holocene Epochs. Lakebed deposits in the southern part of Lake Michigan, including the portion of the lake that lies within the state of Indiana, include sand near the shore, gravel from 50 to 100 feet deep, and mud in the deep parts. Elongated sand dune ridges landward of the south shore of Lake Michigan represent late Pleistocene and Holocene shorelines of ancestral Lake Michigan. Three beach ridges occur in the lacustrine plain and are major dune and beach complexes that developed during periods of high semi-stable lake level. These ridges, moving lakeward, are the Glenwood Beach, the Calumet Beach, and the Toleston Beach.

The Glenwood Beach is the highest dune and beach complex but is a discontinuous ridge. The crest of this dune and beach complex has an average elevation of about 650 feet above mean sea level. However, foreshore deposits, which represent the paleoshoreline, are present in places between 620 and 630 feet above mean sea level.

The Calumet Beach is lakeward of the Glenwood Beach. Dune-capped areas in this complex have an average elevation of about 630 feet above mean sea level, and the foreshore deposits have an average elevation of 607 feet above mean sea level. Calumet Beach deposits consist of dune sediments overlying beach and nearshore sediments.

The Toleston Beach is the youngest dune and beach complex in Indiana. The landward part of this complex consists of linear ridges of coalesced parabolic dunes separated by interdunal swamps, and the lakeward portion is comprised of large dome-shaped and small parabolic dunes, as well as over 150 beach ridges in its western part. Elevations at the top of large domal dunes are as much as 750 feet above mean seal level. Foreshore, upper shoreface, and back-barrier lacustrine deposits occur in the internal core of the complex. The top of the foreshore sequence of the Toleston Beach ranges from 597 to 603 feet above

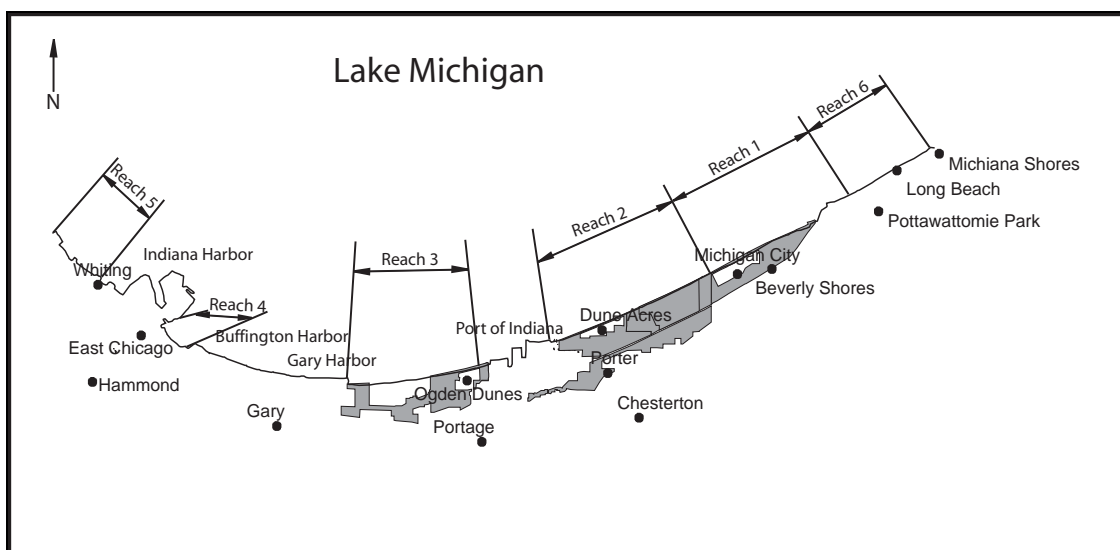
mean sea level. Modification of the Tolleston Beach is still occurring in the eastern part of the region because of the reorientation of dominant wind direction across Lake Michigan.

Wetlands of considerable size are present in the interridge depressions in the eastern part of the Indiana Lake Michigan region. Palustrine sediments are abundant in these interridge wetlands. Areas along the lacustrine plain are capped by lacustrine and palustrine sediments. These areas are drained by sluggish rivers that empty into Lake Michigan. However, extensive channelization of the Little and Grand Calumet Rivers and industrialization in neighboring areas have altered the physiography and the hydrology of the region.

Several studies have been conducted on Lake Michigan to gain an understanding of coastal processes. The following information about the coastal processes of Lake Michigan was taken from the 1998 State of Indiana Coastal Situation Report. The 1998 report was an update and enhancement to the 1988 Coastal Situation Report produced by the Purdue University Great Lakes Coastal Research Lab. The following information is presented from the 1998 Coastal Situation Report:

- Wave and Current Regimes of Lake Michigan
- Wave Climatology
- Storms and Lake Michigan
- Coastal Protection and Structures
- Shoreline Change Over Time

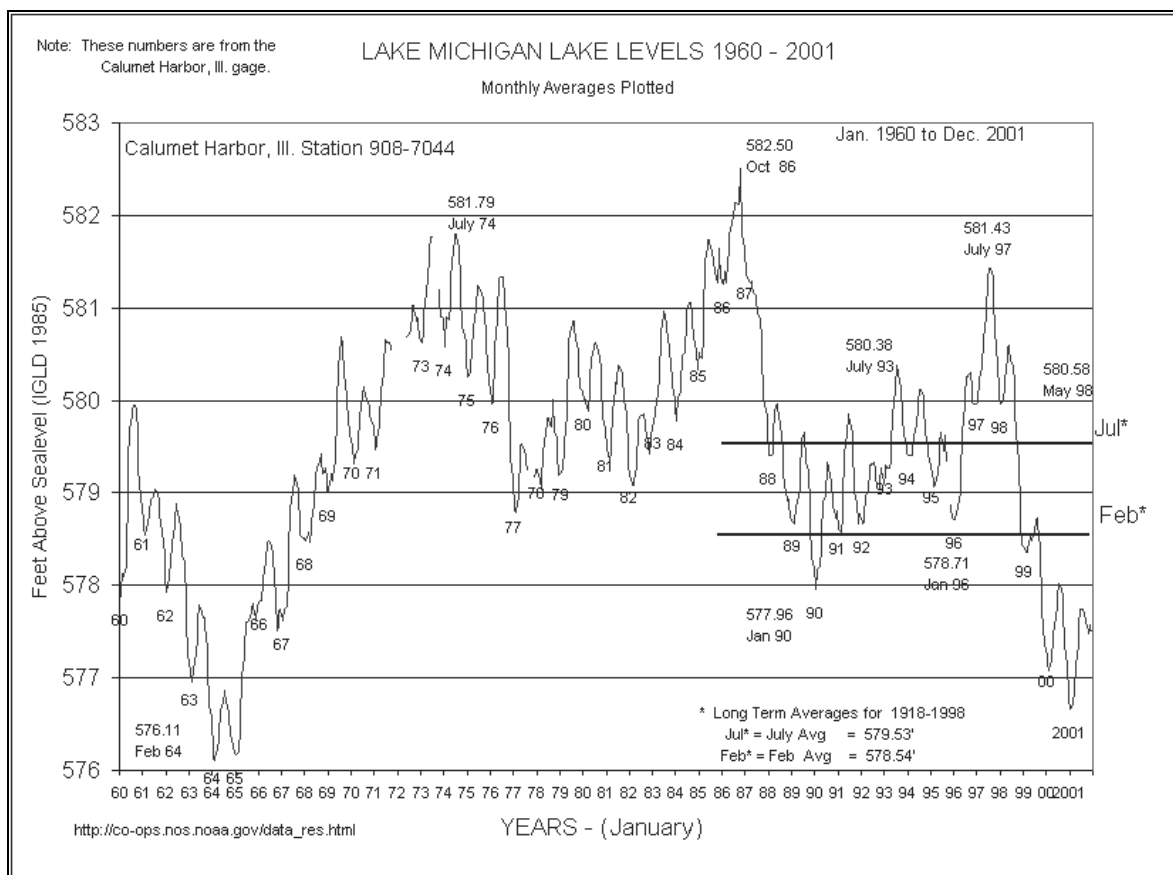
Indiana's coastline is divided into five littoral cells, each separated from the other by an engineered primary structure. Figure 2 shows these littoral cells (CZM, Reach 1 and 2 combined, Reach 3, Reach 4, Reach 5) separated by the four primary structural barriers, Michigan City Harbor, Port of Indiana/Bethlehem Steel Industrial Complex, US Steel/Gary Harbor, and Indiana Harbor respectively, each of which traps or diverts to deeper water essentially all of the sediment transported in the adjacent littoral cells. It is important to note that the net movement of sand occurs in two directions along Indiana's shoreline. On the eastern portion of Indiana's shoreline (from Michigan to Gary, Indiana) net sediment movement is from the east toward the west. In contrast, on the western portion of Indiana's shoreline (from Illinois to Gary, Indiana) the net sediment movement is from the west toward the east.



**Figure 2:** Reaches Along Indiana's Shoreline

## WAVE AND CURRENT REGIME OF LAKE MICHIGAN

In order to fully understand the discussion presented in the following sections, it is necessary to first have a clear understanding of coastal processes (involving sand and water movement) and how they respond to physical forces (wind and waves) in southern Lake Michigan. Coastal process/response systems of the Great Lakes are generally much more dynamic than their oceanic counterpart. The primary reason for this more dynamic behavior is that mean still water level (MSWL) on the Great Lakes is in a constant state of change. Fluctuations in Lake Michigan's lake-level occur on both short (1 year) and long (multiple year) time scales and are not symmetric (Figure 3). Thus, the annual average position of MSWL varies from year to year. This annual average variation of MSWL causes an imbalance in the coastal process/response system forcing it to readjust. A change in MSWL does not, by itself, cause erosion or deposition readjustment in the coastal zone. It does, however, modulate wind-wave energy, which is the principal source of physical forcing responsible for coastal sediment movement.



**Figure 3: Lake Michigan Lake Levels 1960- 2000**

### Currents

The primary driving force of Lake Michigan waves and currents is wind. Wind energy transferred to the lake surface is partitioned such that approximately 95% goes into the generation of currents and 5% generates waves (Meadows, 1986). On Lake Michigan, as on all the Great Lakes, wind systems

responsible for driving waves and currents are highly variable. Thus, unlike the ocean, currents on Lake Michigan are quite transient both with respect to speed and direction.

Surface circulation of Lake Michigan is poorly known, especially in offshore regions, between 30 and 75 feet of water depth, close to shore. A comprehensive study on currents and water masses of Lake Michigan by Ayers et al. (1958) indicated a persistent southerly drift along the southeastern shore of the lake, but found the rest of the currents to be more variable. Verber (1965) measured current speed at various depths in Lake Michigan. He found that in the offshore region, the average velocity was 0.45 ft/sec and that current speed decreased rapidly below those depths. Current speeds were found to be nearly twice as high during winter and early spring as they were in the summer. Verber (1964) also found that water at the 100-foot level in the southern basin rotated alternately clockwise and counter-clockwise in response to the surface winds. Regardless of the variability of lake circulation, this is not the current system responsible for sediment transport in the nearshore. This point is often confused when explanations are sought for observed coastal erosion and deposition patterns or trends. The currents responsible for beach erosion and nearshore sediment transport are generated by breaking waves at the coast in water depths from -20 feet to water's edge. This area of water between -20 feet to the beach is referred to as the "breaking wave zone".

## **Waves at the Coast**

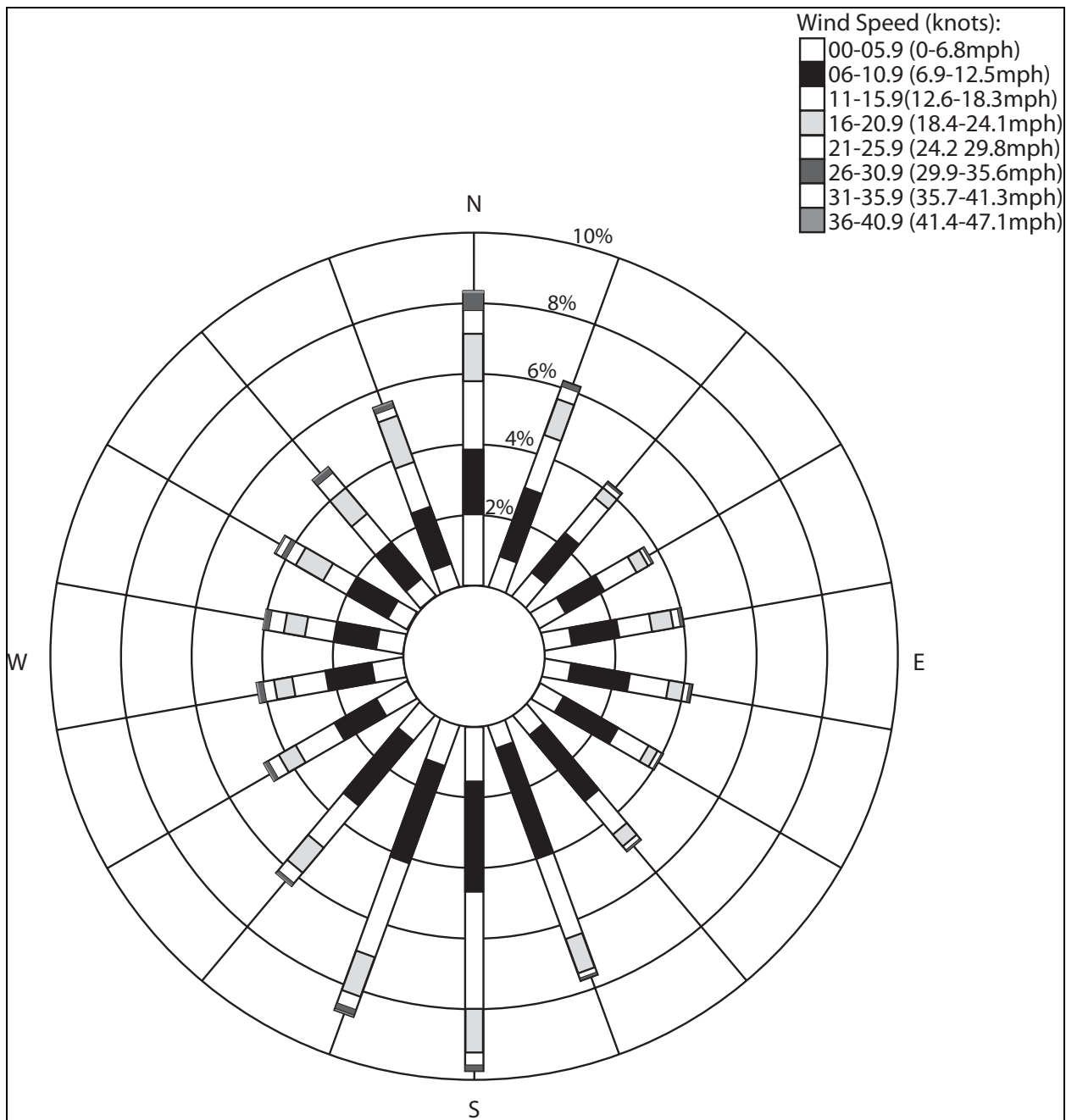
### **Wind-Wave Generation in Southern Lake Michigan**

Wind-waves are generated in all directions over the lake surface in direct response to the prevailing atmospheric pressure system. Figure 4 shows a wind rose constructed from the National Oceanic and Atmospheric Administration (NOAA) buoy data (45007) taken from 1981 to 1996. The prevailing southerly winds, characteristic of Indiana's coastline, are clearly delineated by these data. However, these southerly winds do not generate waves that impinge on the coast of Indiana. Waves which are responsible for coastal erosion and sediment transport along the coast are generated by winds from the west, northwest, north, and northeast. Most notable in the data for these four wind directions is the large percentage of velocities in excess of 10 knots (Figure 4). Winds greater 10 knots are important because they are capable of generating waves large enough to carry sediment along the coast.

"Significant wave height" values were calculated for each of the directions and wind velocity ranges that would generate erosive waves along Indiana's coastline. These calculated "significant wave height" values are the average height of the highest 33% of waves arriving offshore, at the coast. This means that maximum wave heights will exceed these values. These calculated wave heights are shown in Table 1.

	<b>Wind Speed (Knots)</b>			
<b>Wind</b>	11-15	16-20	21-25	26-30
<b>Direction</b>				
<b>From:</b>				
West	2.8	4.0	5.0	6.1
Northwest	3.7	7.0	8.9	10.5
North	3.7	6.0	7.6	9.2
Northeast	2.0	2.8	3.6	4.3

**Table 1:** Calculated "significant wave height" values, in feet, for wind generated waves impinging on the Indiana coastline. Wave heights are for unbroken offshore waves arriving at the coast.

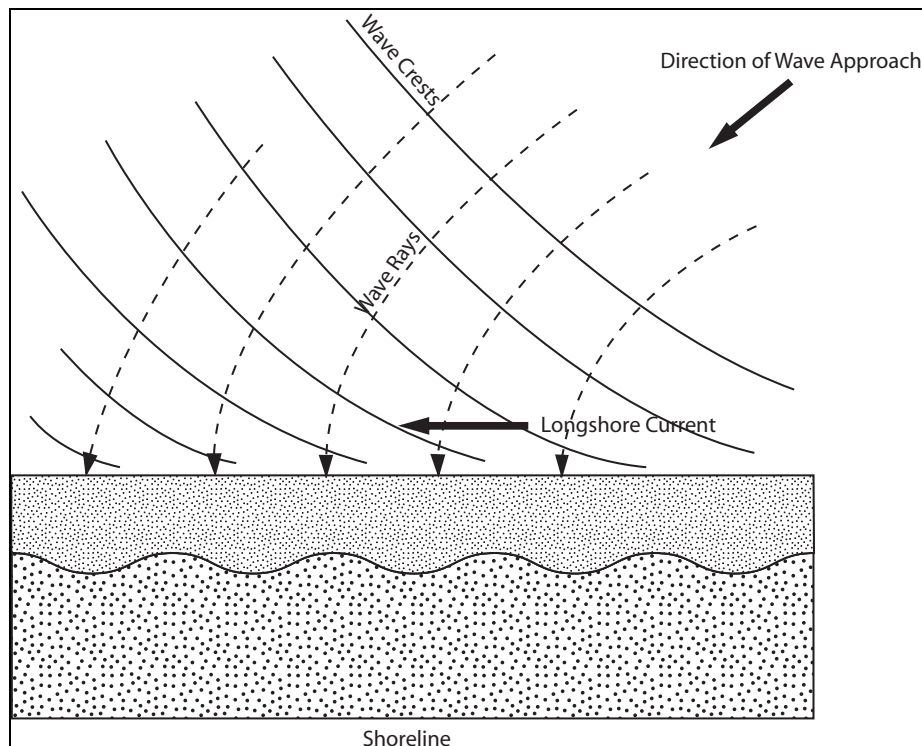


**Figure 4:** Wind Rose for Southern Lake Michigan (Bars indicate direction wind blows from)

#### Wave Refraction and Breaking

As waves move into shallower water near the shore, the bottom of the wave begins to touch the lake bottom. This process is referred to as shoaling. The wave speed slows in such a way as to bend (refract) the wave crest to align with the shoreline. For most of the Indiana shore, this bending (refraction) tends to align the wave crests nearly parallel to the shoreline. Figure 5 shows a schematic drawing of shoaling wave crests refracting at a coast. As these waves shoal and break, they carry water mass landward, towards the beach. This rapidly moving water mass is transported in two directions (up onto the beach and parallel with the beach). If waves approach at a high angle to the shore (highly non-parallel), large

quantities of water are transported along the shore forming what is called a longshore current. The velocity of the longshore current will increase with increasing wave height and higher (non-parallel) wave crest angles. The strongest longshore currents are generated when the wave crest is at a 45 degree angle to the shoreline. If waves approach at low angles (nearly parallel) to the shore, large quantities of water are carried up the beach and onto the back beach dune-bluff, but the resulting longshore current velocities will be relatively slower. This uprush of water, called swash, erodes the dune-bluff base causing slumping, and lifts sediment into suspension. Once this water mass rushes up the beach face, it reverses direction and flows rapidly lakeward (backwash) due to the acceleration of gravity. This backwash carries sediment off the beach face and into the prevailing longshore current. The water mass transported landward by breaking waves must be returned to the offshore in order to conserve mass. Stated another way, if the mass of water transported landward with each wave did not eventually return to the offshore, then water would continue to pile up on the shore.



**Figure 5:** Wave Refraction and Longshore Current for waves approaching at 45 degrees to the shoreline.

## WAVE CLIMATOLOGY

In order to better understand the coastal dynamics of the Indiana shoreline and to properly assess the impact and performance of engineered structures built at the shore, it is necessary to know the coastal wave climatology.

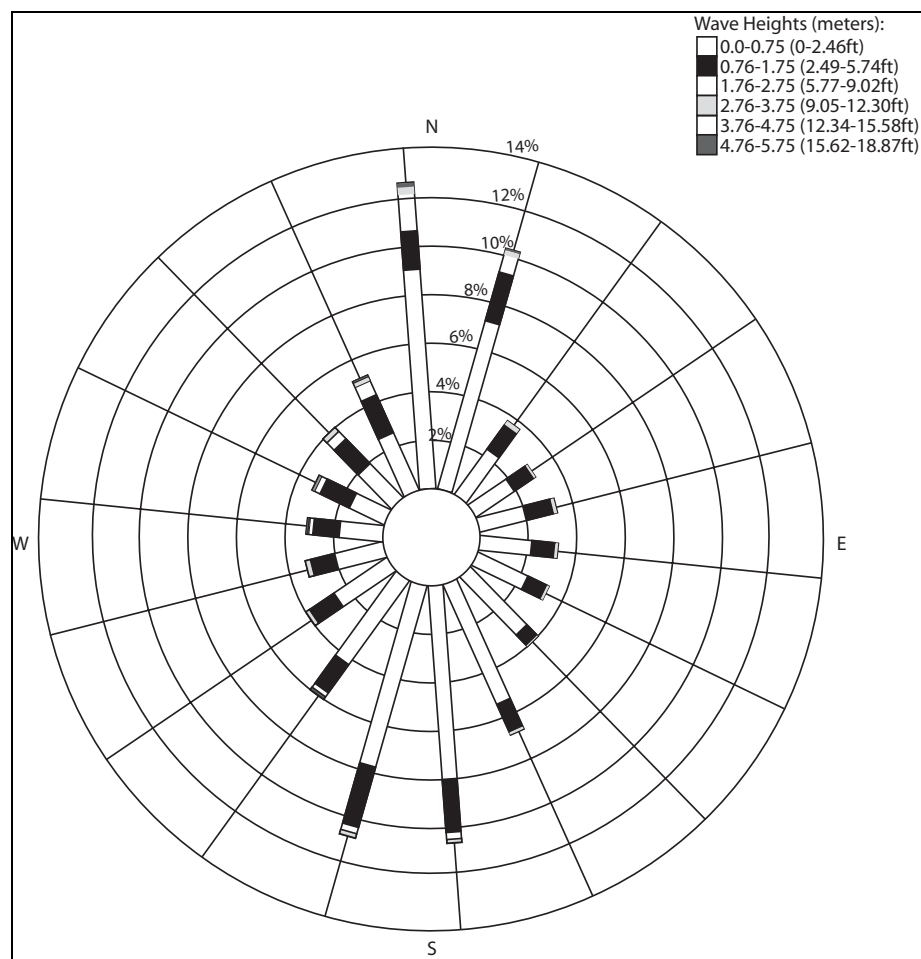
NOAA data buoy 45007 is located at latitude 42° 42' North, longitude 87° 06' West (located approximately 75 miles (statute) north of Gary, Indiana) and is maintained in Lake Michigan from early spring (March) to late fall (November) during the ice-free months. Analyses were carried out on the buoy wave data to determine a composite wave climatology and wave probability occurrence statistics.

### Composite Wave Climatology

Wave height, period and direction data for years 1981 through 1996 were combined to generate composite distributions of wave height and direction and wave height and period. This data was obtained from the National Data Buoy Center (NDBC) webpage: <http://seaboard.ndbc.noaa.gov>.

Figure 6 gives the distribution of “significant wave heights” for 20° sectors of wave approach direction for the entire reporting period. The detailed tabulation of these “significant wave height” data are given in Table 2a and 2b. Waves that would be directly incident on the Indiana shore or would refract to the shore would come from sectors in the western (265-284, 285-304, 305-324), northern (345-004, 5-24), or eastern (25-44, 45-64, 65-84) quadrants of this distribution. Evident in Figure 6 is the dominance of high wave occurrence from the north and northwest. These data support the conclusion that Indiana's coast is one of the most significant high wave energy areas in all of Lake Michigan.

There is a statistical bias in these wave data because NOAA buoys are generally deployed from March or April through November. However, these data do represent a large portion of the ice-free months with the notable exception of early winter storm waves that occur in December. The marginal distribution of Table 3 shows that a majority of observed waves are 3 feet or less in height with periods less than 6 seconds. The largest observed wave was approximately 18 feet with a period of about 7.5 seconds. The previous Coastal Situation Report (1988), which utilized data from 1981 to 1984 and 1986, also reported a maximum observed wave height of 18 feet with a period of 6 to 7 seconds.



**Figure 6:** Wave Rose for Southern Lake Michigan (bars indicate direction from which waves are coming)

**Table 2a and 2b:** Joint distribution of wave direction in compass degrees relative to north (0 or 360 °) and wave height in meters. Uppermost entry is number of observations and lowermost entry is percent of all observations

Table 2a: Wave Height Data for 1981 through 1996 Buoy 45007									
Buoy Location: Southern Lake Michigan at									
42.7000 Latitude and 87.1000 Longitude									
Wave Height	Wave Direction (Degrees)								
Range (m)	005-024	025-044	045-064	065-084	085-104	105-124	125-144	145-164	165-184
0.00-0.25	1786	776	575	616	709	857	1195	1795	2243
	2.276	0.989	0.733	0.785	0.904	1.092	1.523	2.288	2.859
0.26-0.75	2964	1123	873	1032	1060	1075	1414	2386	3694
	3.778	1.431	1.113	1.315	1.351	1.370	1.802	3.041	5.052
0.76-1.25	1658	544	453	505	498	369	405	764	1435
	2.113	0.693	0.577	0.644	0.635	0.470	0.516	0.974	1.829
1.26-1.75	828	248	207	204	135	110	163	293	503
	1.055	0.316	0.264	0.260	0.172	0.140	0.208	0.373	0.641
1.76-2.25	437	123	64	79	80	54	72	103	220
	0.557	0.157	0.082	0.101	0.102	0.069	0.092	0.131	0.280
2.26-2.75	206	46	16	24	16	17	19	53	69
	0.263	0.059	0.020	0.037	0.020	0.022	0.024	0.068	0.088
2.76-3.25	90	18	1	7	11	3	1	4	22
	0.115	0.023	0.001	0.009	0.014	0.004	0.001	0.005	0.028
3.26-3.75	58	1	0	0	4	4	0	0	5
	0.074	0.001	0.000	0.000	0.005	0.005	0.000	0.000	0.006
3.76-4.25	19	0	0	0	3	0	0	0	0
	0.024	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000
4.26-4.75	11	1	0	0	0	0	0	0	0
	0.014	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4.76-5.25	9	0	0	0	0	0	0	0	0
	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5.26-5.75	0	0	0	0	0	0	0	0	0
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	8066	2880	2189	2467	2516	2489	3269	5398	8461



Table 2b: Wave Height Data for 1981 through 1996 Buoy 45007									
Buoy Location: Southern Lake Michigan at									
42.7000 Latitude and 87.1000 Longitude									
Wave Height	Wave Direction (Degrees)								
Range (m)	185-204	205-224	225-244	245-264	265-284	285-304	305-324	325-344	345-004
0.00-0.25	2355	1455	841	611	538	496	559	952	3388
	3.001	1.854	1.072	0.779	0.686	0.632	0.712	1.213	4.318
0.26-0.75	3733	1841	1224	996	866	757	933	1180	3075
	4.758	2.346	1.560	1.269	1.104	0.965	1.189	1.504	3.919
0.76-1.25	1533	749	512	484	493	532	662	772	1514
	1.954	0.955	0.653	0.617	0.628	0.678	0.869	0.984	1.930
1.26-1.75	552	331	237	285	295	387	506	515	894
	0.704	0.422	0.302	0.363	0.376	0.493	0.645	0.656	1.139
1.76-2.25	263	135	109	127	156	180	244	293	524
	0.335	0.172	0.139	0.162	0.199	0.229	0.311	0.373	0.668
2.26-2.75	75	35	36	78	87	79	136	214	208
	0.096	0.045	0.046	0.099	0.111	0.101	0.173	0.273	0.265
2.76-3.25	14	9	14	31	30	52	65	78	87
	0.018	0.011	0.018	0.040	0.038	0.066	0.083	0.099	0.111
3.26-3.75	5	3	8	5	4	15	36	37	49
	0.006	0.004	0.010	0.006	0.005	0.019	0.046	0.047	0.062
3.76-4.25	0	2	3	4	0	3	9	14	27
	0.000	0.003	0.004	0.005	0.000	0.004	0.011	0.018	0.034
4.26-4.75	0	1	1	4	1	7	6	4	19
	0.000	0.001	0.001	0.005	0.001	0.009	0.008	0.005	0.024
4.76-5.25	0	2	0	0	3	0	0	0	20
	0.000	0.003	0.000	0.000	0.004	0.000	0.000	0.000	0.025
5.26-5.75	0	0	0	0	0	0	0	1	3
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.004
Total	8530	4563	2985	2625	2473	2508	3176	4060	9808

**Note:** Number of calm observations: 9,935; Total number of observations:78,463

Table 3: Southern Lake Michigan for 1981 through 1996							
Period	calm	4.0-5.9	6.0-7.9	8.0-9.9	10.0-11.9	12.0-13.9	Totals
Wave Height							
0.00-0.25	8839	1030	4	2	1	0	
	22.64	2.64	0.01	0.01	0.00	0.00	25.30
0.26-0.75	7540	5851	106	0	0	0	
	19.31	14.99	0.27	0.00	0.00	0.00	34.57
0.76-1.25	847	5845	821	0	0	0	
	2.17	14.97	2.10	0.00	0.00	0.00	19.24
1.26-1.75	20	2879	1245	19	0	0	
	0.05	7.37	3.19	0.05	0.00	0.00	10.66
1.76-2.25	0	847	1291	52	0	0	
	0.00	2.17	3.31	0.13	0.00	0.00	5.61
2.26-2.75	0	91	808	113	1	0	
	0.00	0.23	2.07	0.29	0.00	0.0	2.59
2.76-3.25	0	4	266	158	2	0	
	0.00	0.01	0.68	0.40	0.01	0.00	1.10
3.26-3.75	0	1	58	138	6	0	
	0.00	0.00	0.15	0.35	0.02	0.00	0.52
3.76-4.25	0	0	7	61	5	0	
	0.00	0.00	0.02	0.16	0.01	0.00	0.19
4.26-4.75	0	0	6	25	16	0	
	0.00	0.00	0.02	0.06	0.04	0.00	0.12
4.76-5.25	0	0	1	9	22	0	
	0.00	0.00	0.00	0.02	0.06	0.00	0.08
5.26-5.75	0	0	0	1	3	0	
	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Totals	44.17	42.39	11.82	1.48	0.14	0.00	100.00

**Table 3:** Joint distribution of wave height in meters and wave period in seconds for Southern Lake Michigan. Uppermost entry is number of observations and lowermost entry is percent of all observations

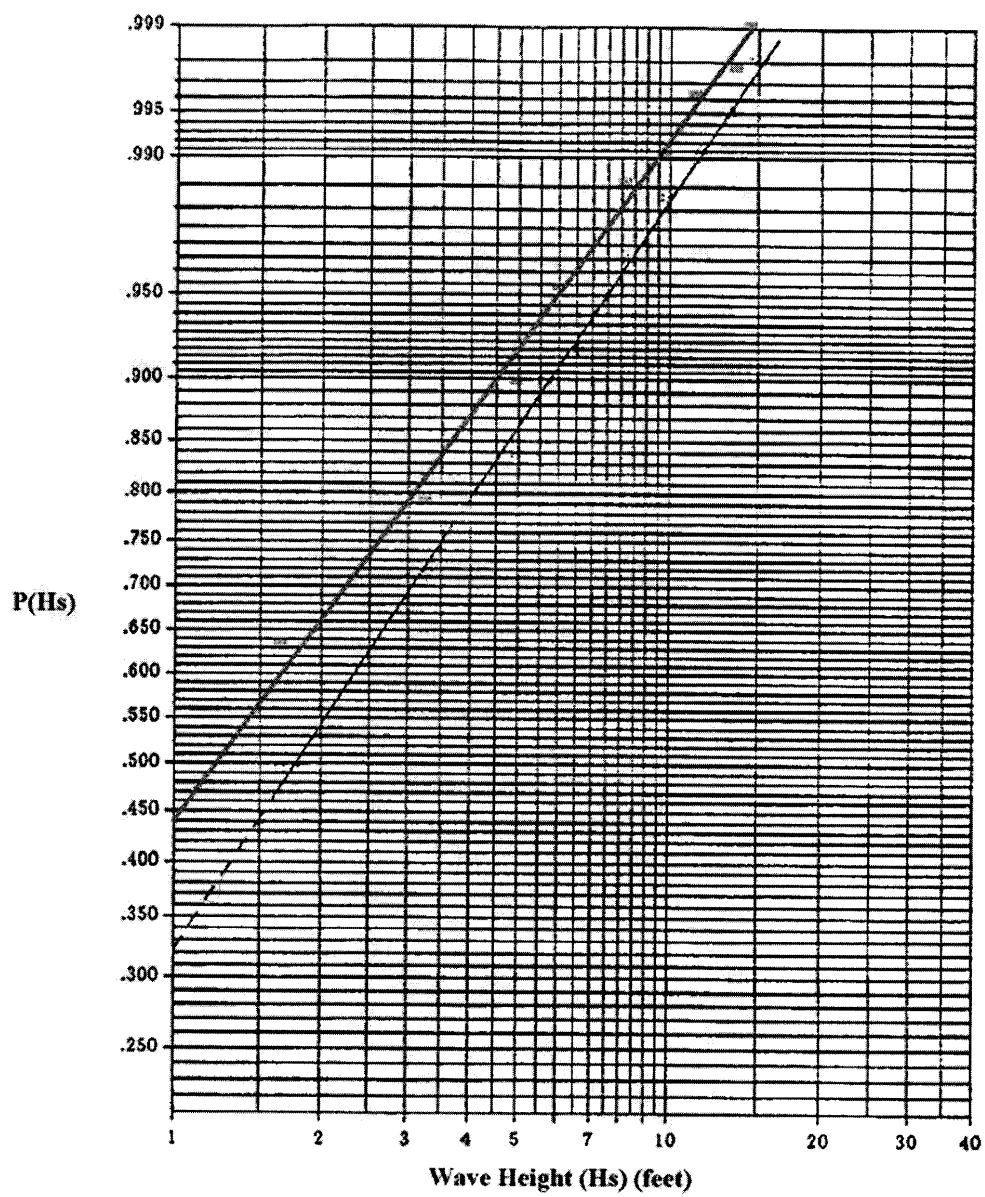
## STORMS AND LAKE MICHIGAN

There is very little appropriate data available on wind conditions at the Indiana coast and virtually no data on waves. However, studies have been done that can provide some insight to conditions at the Indiana coast. Wind data were collected at the Ogden Dunes, U.S. Weather Bureau Cooperative Station, between 1949 and 1967. These data indicate that "prevailing" monthly wind is from the south at an annual average speed of 11 knots (12.65 mph). However, maximum recorded wind speeds for each month ranged from 44 to 74 knots (50.6 to 85.1 mph) blowing from the north, northwest, or west. The primary sustained storm periods were in early spring and late fall. It is these sustained periods of high winds from the north, northwest, and west that cause the greatest coastal erosion and dune-bluff recession in southern Lake Michigan.

Wave measurements in southern Lake Michigan close to the Indiana shoreline are essentially non-existent. Visual observations of wave height were made at selected sites along the coast of Indiana during the U.S. Army Corps of Engineers, Littoral Environmental Observation (LEO) program. These data are too subjective and intermittent to be of use in assessing wave climatology and predicting shoreline response. The U.S. Army Corps of Engineers, Coastal Engineering Research Center took limited (2 to 4 months) wave measurements off Beverly Shores, Indiana in the mid-seventies. These data indicate maximum wave heights at a distance of approximately one-half mile offshore to be between 16 and 22 feet, during extreme storm conditions. From 1981 to present the NOAA has collected wind and wave data from a southern Lake Michigan monitoring buoy 45007 (National Data Buoy Center). The buoy is located offshore of Racine, Wisconsin, approximately 75 miles (statute) north of Gary, Indiana. These data were analyzed as part the 1998 study to produce wave climatologies for the Indiana shoreline. Another source for wave data is the Wave Information Study (WIS) for Lake Michigan (Hubertz et. al., 1991), by the U.S. Army Corp of Engineers, Coastal Engineering Research Center. The WIS data provide a hindcast database for the period from 1956 to 1987.

### **Wave Probability Statistics**

Wave probability statistics are useful while assessing proposed coastal engineering designs, calculating sediment transport and determining coastal storm risks. The sixteen years of observed wave data shown in Tables 2a and 2b were used to generate a long-term probability distribution of wave heights for the Indiana coast. The data were directionally filtered to only include those waves from 265° (West) through 360°, or 0°, (North) to 104° (East) (See Table 2a and 2b). The probabilities of the known wave height for 1981-1986 (thin line) and 1981-1995 (thick line) data are plotted as a log-probability (Weibull) distribution function in Figure 7. The "best fit" to the data is represented by the line drawn through the observed heights in Figure 7. This line can be extrapolated to the 50 or 100-year return period probability levels. The accuracy of this extrapolation is assessed by how well the data fit a straight line, which in the case of Figure 7 is quite good. From Figure 7 it can be interpreted that a storm with a return period of 100 years  $H_{0.01}$  or  $P(H_s)_{0.99}$  would produce a "significant wave height" of approximately 9.5 feet. The previous Coastal Situation Report (1988) reported a "significant wave height" of approximately 11.5 feet.



**Figure 7:** Wave Height Probability Distribution

The variation between the reported 1988 and 1998 “significant wave heights” is a result of a changing wave climatology. As depicted on Figure 7, the plot of the 1981 - 1995 data (thick line) resulted in a best fit line above the plot from the 1988 Coastal Situation Report. This change is a result of a higher percentage of waves being recorded at smaller heights for this study period. This indicates a statistically less intense wave climatology for the 1981 - 1995 period. As a result, the “significant wave height” was lower.

Wave height distributions on the Great Lakes and on the world's oceans appear to be well represented by a Rayleigh probability distribution. Table 4 gives the relation of wave height parameters to “significant wave height” for a cumulative Rayleigh probability distribution.

Parameter	Ratio
Significant height	1.00
Average height	0.64
Average of highest 10%	1.29
Average of highest 1%	1.68
Highest wave	1.87

**Table 4:** Relation of wave height parameters to “significant wave height”

A transformation of these ratios into a set of "real" wave heights for a storm with a return period of 100 years is shown in Table 5.

Parameter	Height in Feet
Significant height	9.50
Average height	6.08
Average of highest 10%	12.26
Average of highest 1%	15.96
Highest wave	17.77

**Table 5:** Height in feet of wave height parameters for a 100 year storm on Indiana's coastline

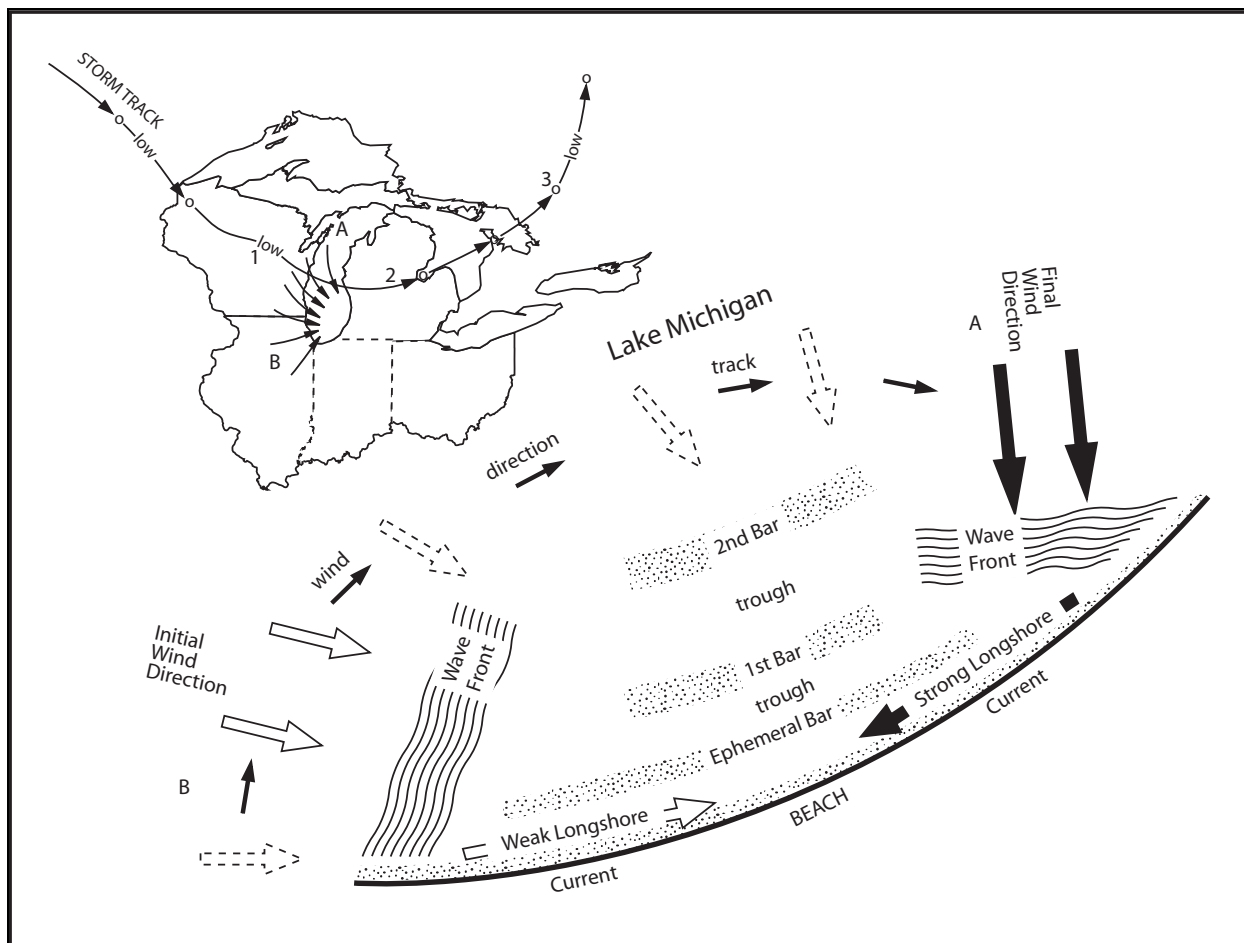
The calculated highest wave of 17.77 feet in the 1998 report is significantly lower than the calculated highest wave value, 21.5 feet, given in the 1988 Coastal Situation Report and the highest observed wave height of 22 feet recorded approximately a half mile offshore of Beverly Shores, Indiana by the Corps of Engineers in the 1970's. This is again the result of a higher percentage of smaller waves being recorded over the longer study period (1981 to 1995).

### **Storm Induced Sediment Movement at the Indiana Coast (Net Sediment Transport)**

Erosion and subsequent sediment transport are episodic events that occur in response to the passage of storms at the coast. Figure 8 shows a representative "storm track" of a low pressure system across Lake Michigan. Also shown in this figure is the sequential development of waves and longshore currents on the

Indiana coast as the storm approaches and passes across the Lake Michigan. When the center of the storm is at position 1 over Minnesota, weak winds blow from the west. These weak winds generate small waves which create a weak longshore current. This weak longshore current moves a small volume of sediment along Indiana's coast from the west to east, which is opposite to the net sediment transport direction. As the storm moves across Lake Michigan to position 2 over Michigan, wind speeds begin to increase and shift to a more northerly direction. When the storm moves to position 3 over Canada, the strongest storm winds are now blowing from the north. These winds are able to transfer considerable energy into waves and generate large waves coming from the north because there is approximately 300 miles of open water (fetch) between the north end of Lake Michigan and the Indiana coast. These large waves generate strong longshore currents along the coast from east to west that move a large volume of sediment in the direction of the net sediment transport.

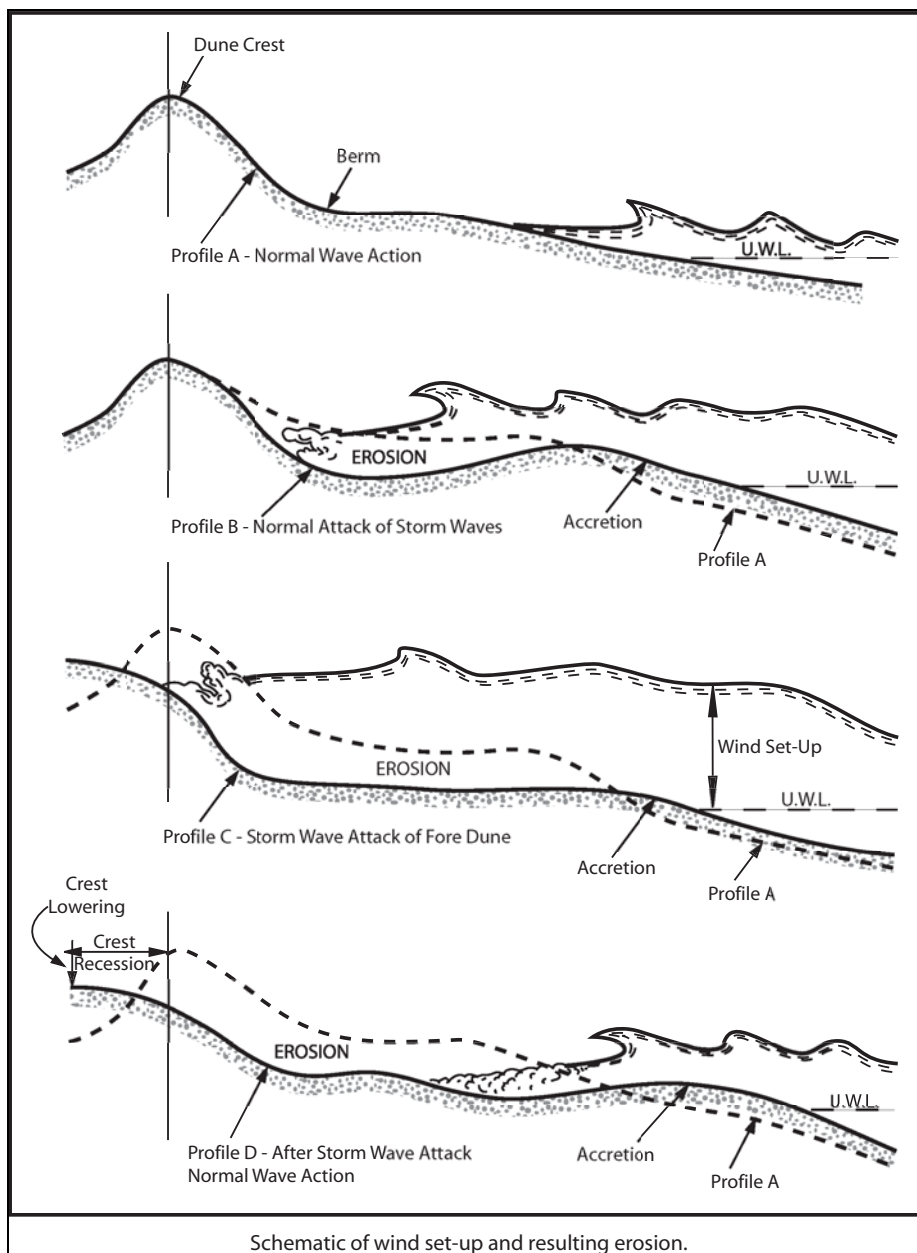
The net sediment transport is the direction that the largest volume of sand moves over a given period of time. If a small amount of sand moves east during the first part of a storm, but more sand moves west during the latter part of the same storm, the net direction of sand movement would be toward the west. If this pattern persists storm after storm, a net direction of sediment movement is established for that part of the coastline.



**Figure 8:** Storm Track and Resulting Waves and Currents

## Wind Set-up

Another factor of importance in understanding the devastating impact of storms over the lake on the Indiana coast is wind set-up. Wind set-up is the increase in elevation of relative “still water level” due to wind stress actually “tilting” the lake surface. This effect is usually associated with strong northerly storms which tilt the lake surface resulting in lower water levels at the north end of the lake and higher water levels at the south end of the lake at the Indiana coast. Figure 9 shows a four diagram sequence depicting the increased erosion effect of wind set-up (profile C). Essentially, wind set-up raises the effective water level, which in turn allows the storm waves to penetrate further landward before breaking. This effect transfers more wave energy directly to the backbeach dune-bluff area resulting in high levels of coastal erosion and dune-bluff recession.



**Figure 9:** Wind Set-Up and Erosion

### Storm Rise Tables (US Army Corps of Engineers Lake Levels)

Storm rises occur as a result of high winds and changes in barometric pressure. The monthly storm induced rises are presented for the return periods, or recurrence intervals indicated in Table 6 for Calumet Harbor, Illinois. The monthly rises are based on an analysis of the maximum annual rise for each year which is the difference between the maximum and mean water level for a given month at a given gage location. The monthly rises are intended to be used in combination with the monthly mean lake levels provided in the Monthly Bulletin of Lake Levels for the Great Lakes. For example, at Calumet Harbor the probability that a 1.4 foot "storm induced rise" will be exceeded is 0.20 or 20 percent (Table 6). This represents a return period, or recurrence interval of once in 5 years for the month of May. If the May level for Lake Michigan is forecasted to be 580.0 feet, then there is a 20 percent (or 1 in 5) chance that a level of 581.4 feet will be equaled or exceeded at Calumet Harbor during the month of May.

	Probability of Exceedance				
	20%	10%	3%	2%	1%
January	1.6	1.8	2.1	2.3	2.5
February	1.5	1.8	2.0	2.2	2.4
March	1.6	1.8	2.2	2.5	2.8
April	1.5	1.7	2.0	2.2	2.3
May	1.4	1.7	2.0	2.2	2.5
June	1.3	1.5	1.8	1.9	2.1
July	1.1	1.4	1.9	2.3	2.7
August	1.2	1.4	1.6	1.8	2.0
September	1.3	1.6	1.9	2.2	2.5
October	1.3	1.6	2.1	2.4	2.8
November	1.5	1.7	2.0	2.2	2.4
December	1.6	1.9	2.3	2.6	2.8

**Table 6:** Lake Michigan at Calumet Harbor, Illinois.  
Possible Storm Induced Rises (in feet). Note: The rises shown above, should they occur, would be in addition to still water levels indicated on the Monthly Bulletin. Values of wave runup are not provided in this table.

The monthly "storm-induced rise" values do not represent the actual events of any particular storm and the associated maximum water level that occurs during the storm. This is because the "rises" are derived



from the differences between the monthly maximum hourly or instantaneous event and mean water levels for the month (average of the daily levels) and not the instantaneous pre- or post-water levels measured from specific, or individual storms that occurred in the past.

Wave runup is the surge of water measured vertically from the still water level resulting from the wave acting on the shoreline structure, or beach. The runup is a function of wave height and structure type or shape and height. The wave height is a function of water depth, wind speed and direction, duration of the wind, and the offshore geometry. Large storm waves often break before reaching structures on the shoreline because the water depth is too shallow to support the wave.

## **COASTAL PROTECTION AND STRUCTURES**

There are four general categories of coastal engineering problems that may require structural solutions: shoreline stabilization, backshore (dune-bluff) protection, inlet stabilization, and harbor protection (Shore Protection Manual, 1984). All four of these categories of coastal engineering problems are present on the Indiana shoreline. Factors that should be considered in evaluating each of these problem areas include: hydraulic characteristics, sedimentation, and control structure characteristics. Hydraulic considerations include: wind, waves, currents, storm surge or wind set-up, lake-level variation, and bathymetry. Sedimentation considerations include: sediment classification, distribution properties and characteristics; direction and rate of littoral transport; *net* versus *gross* littoral transport; and shoreline trend and alignment. Control structure considerations include selection of the protective works with respect to type, use, effectiveness, economics and environmental impact (Shore Protection Manual, 1984). It is important to note that a "no action" alternative should also be considered as a possible solution for any one of these categories of coastal problems.

### **Classification of Coastal Structures**

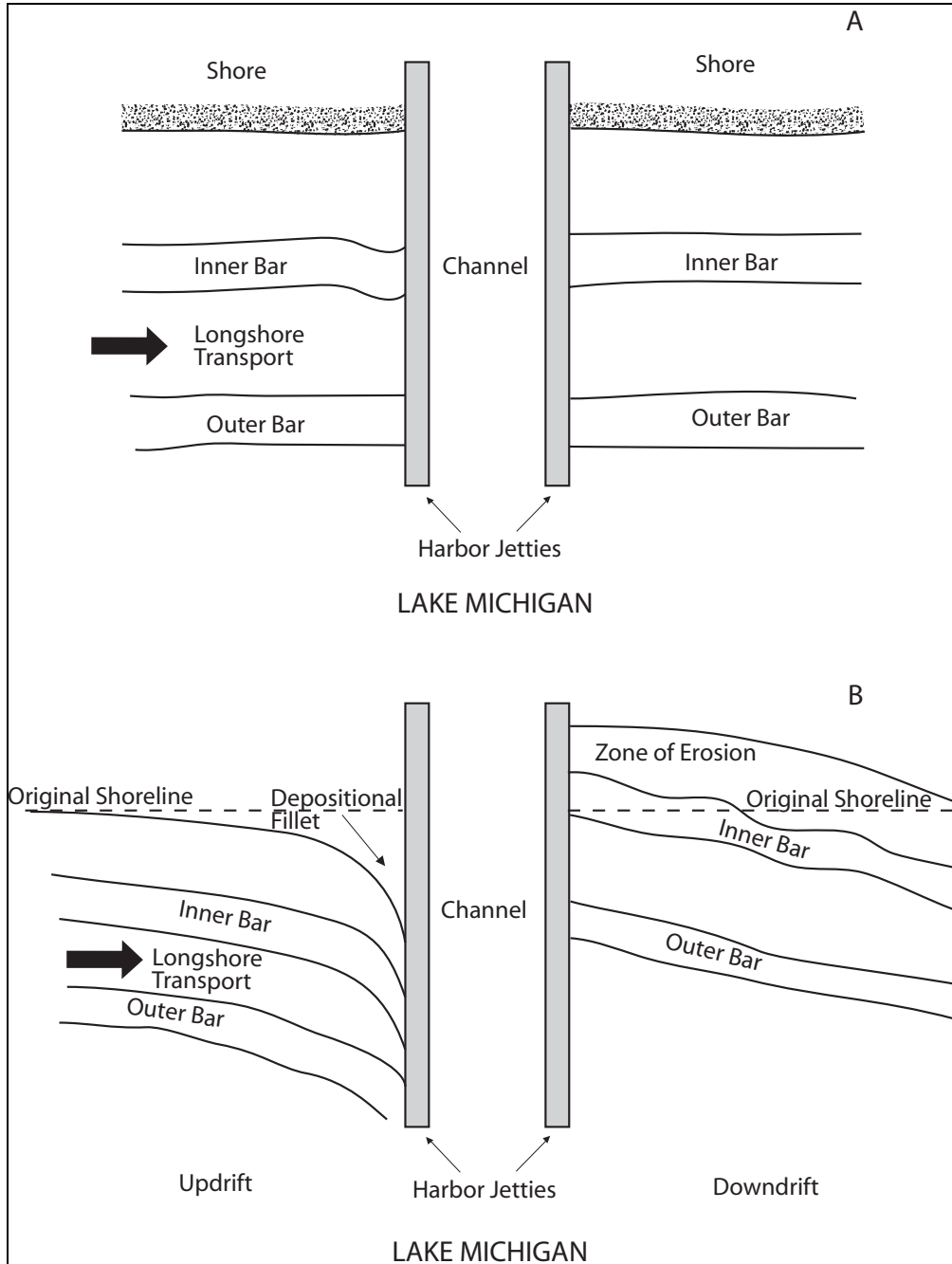
Classification of coastal structures can be facilitated in various ways depending upon the criteria selected for classification. The 1998 report used the same method set forth by Wood and Davis (1986) that was used in the first Coastal Situation Report (1988). This method established a classification scheme based upon the degree of impact a structure imposes on the process/response system of the beach and nearshore zone. In other words, how much of this "breaking wave zone" width, where sand is normally transported along the shoreline by waves, is blocked by the structure. This classification scheme has three principal groups of structures referred to as primary, secondary and tertiary.

#### **Primary Structures**

Primary structures are large coastal constructions that form total or near total barriers to sediment transport parallel to the beach in the nearshore zone. This type of structure is represented by the Michigan City Harbor jetties, Port of Indiana/Bethlehem Steel Industrial Complex, the U.S. Steel/ Gary Harbor complex breakwalls, and the Indiana Harbor complex. Each of these structures extends lakeward across the littoral zone to a distance offshore where sediment transport becomes negligible. Their impact on downdrift shoreline is to increase erosion and subsequent dune-bluff recession by blocking sediment coming from the updrift direction that would normally supply the downdrift transport. Coastal engineers refer to these structures as "total sediment barriers."

A schematic representation of a primary structure is shown in Figure 10. Figure 10A shows the shoreline and nearshore bar configuration at the time of initial construction of the harbor jetties. Figure 10B depicts the shoreline and nearshore bar adjustment at some time in the future. As time progresses, the amount of

shoreline loss on the downdrift side and gain on the updrift side will continue to increase. At the same time, sediment will be removed from the nearshore bars on the downdrift side of the harbor resulting in a gradual degradation of the protective bar system. The only natural way to mitigate primary structure impact on the downdrift shoreline is to replenish the material lost from the sediment transport system.



**Figure 10A and 10B:** Shoreline and Nearshore Response to Placement of Primary Structures

There are two engineering techniques generally recommended for replenishment of material lost from the transport system. Sand bypassing is a technique that mechanically transports material from the depositional fillet updrift to the zone of erosion downdrift (Figure 10B). Bypassing is accomplished by dredging material at the depositional fillet and either transporting it by barge or pumping it through pipes to the downdrift dump site. A major difficulty with barge or dredge transport in the Great Lakes is that these vessels are limited by water depth as to how close to shore they can dump material. Consequently, direct replenishment of the erosion zone is not possible in most locations. Pumping of the dredged material can be used for direct replenishment of the erosion zone, but this technique is usually limited by economic considerations related to the distance over which the slurry must travel. Beach nourishment is another technique that utilizes environmentally suitable material from either a lake or land source to rebuild the eroded beach zone. This technique is applicable to rebuilding any coastal beach region as well as rebuilding the zone of erosion downdrift from primary harbor structures. The major factor of concern in application of this technique is finding material that is suitable for both environmental and engineering design considerations.

### Secondary Structures

Secondary structures are moderate sized structures that have significant impact on sediment transport, but do not form total sediment barriers. These structures generally affect between 25 and 75 percent of the net sediment transport in the nearshore zone. There are three types of secondary structures: shore-crossing, shore-parallel and combined.

Shore-crossing secondary structures protrude out into the nearshore zone to a distance greater than the inner-bar and less than or equal to the outer-bar positions. An example of this type of structure is the Burns Small Boat Harbor at the mouth of the Portage/Burns Waterway in Reach 3.

Shore-parallel secondary structures are relatively long (100's to 1000's of feet/ 10's to 100's of meters) engineering constructions that significantly influence net sediment transport. These structures can be located onshore, such as revetments and seawalls, or offshore such as detached or reef breakwaters. Examples of shore-parallel structures include the 13,000-foot long Beverly Shores rock revetment in Reach 1 and the combination "sheet steel and rock revetment" breakwater system at Porter Beach in Reach 2.

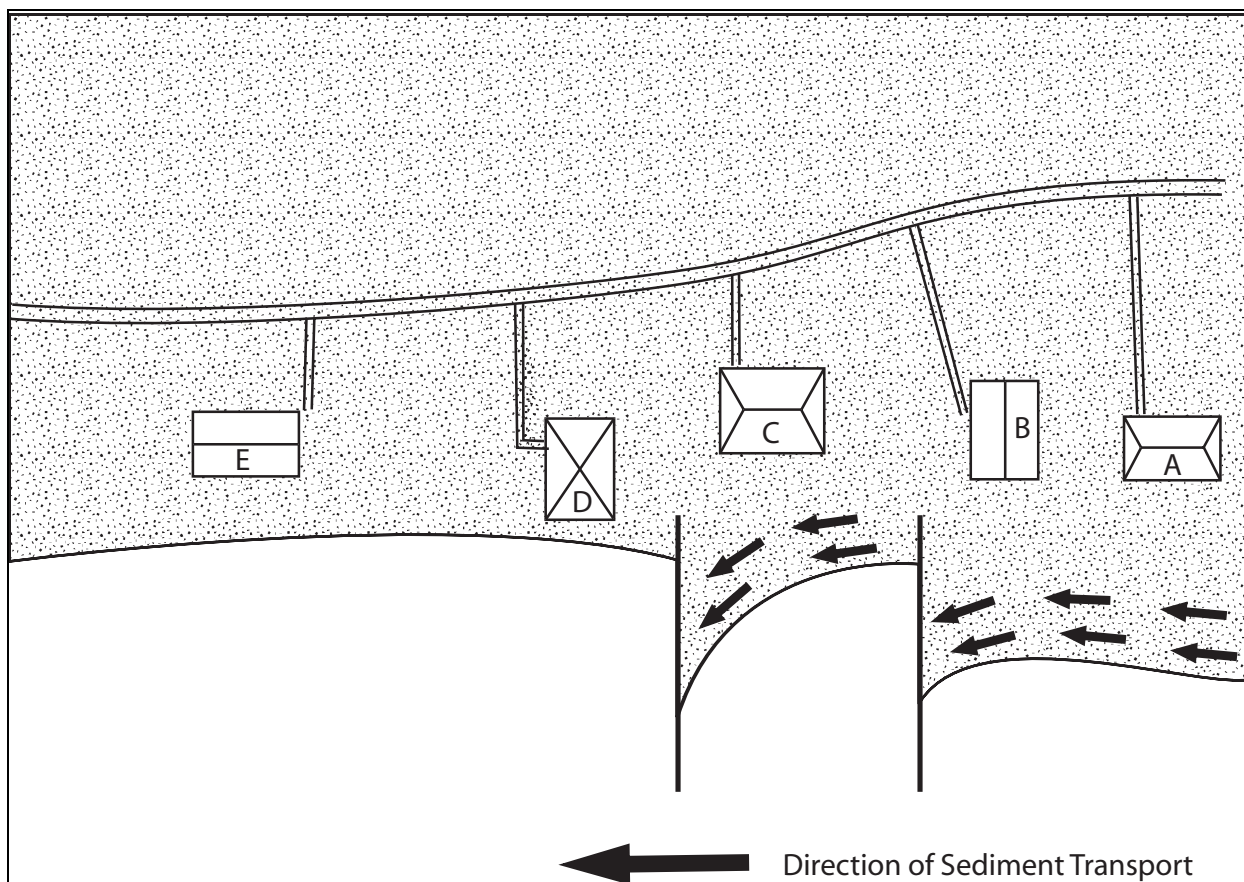
Combined secondary structures are those constructed with both shore-crossing and shore-parallel structures. The most common example of this type of structure is a series of shore-crossing groins protruding lakeward from a long rock revetment or conventional seawall system. Structures of this type are not presently exposed on the Indiana shoreline, although such a system was constructed in 1967 in front of NIPSCO Bailly Power Plant at the west end of Reach 2. This system is presently buried by sediment because it is updrift of a primary sand trapping structure (Port of Indiana/Bethlehem Steel Industrial Complex).

Mitigation of the erosion impact of secondary structures is, in most cases, an engineering irony. With the exception of small inlet jetties and some reef breakwaters, secondary structures are usually constructed to protect a specific segment of shoreline and stop erosion. The problem created is usually one of mitigating the erosion impact of an erosion control structure. One of the most frequently encountered engineering alternatives to mitigate secondary structure erosion is to extend the length of the structure in the downdrift direction. This alternative is not a solution, but merely a translation of the erosion problem to a new area of shoreline. In most cases of receding shoreline, construction of secondary "shore protection" structures signals the beginning of an endless sequence of building new erosion control structures.

### Tertiary Structures

Tertiary structures are small-sized structures that have localized impact on sediment transport. These structures generally affect less than 10 percent of the net sediment transport in the littoral zone. These structures are typically breakwalls, short groins, longard tubes, sand bags, and debris piles built or placed on the shore to protect a single coastal residence. Since tertiary structures can be shore-crossing, shore-parallel or combined, their affect on the adjacent shoreline is similar to that of secondary structures. The main difference between secondary and tertiary structures is the distance downdrift and lakeward to which their effect is felt.

Tertiary structures have the greatest negative impact on the beach and fastland immediately downdrift from them. Figure 11 shows two groins built to protect home C. After construction of these tertiary structures, the shoreline adjusts as shown in Figure 11. Shoreline adjustment due to the sediment trapping not only results in protection of home C, but of homes B and A as well. Unfortunately, homes D and E are threatened by increased erosion immediately downdrift from the groins. Unless the owners of homes D and E build tertiary shore protection structures, they will lose their homes. Thus the same problem that arose with secondary structures arises again with tertiary structures. In fact, the sequential building of tertiary structures over linear shoreline distances of 100's to 1000's of feet (10's to 100's of meters) results in a secondary structure. Once again the "solution" to a shoreline erosion condition creates an erosion problem of greater magnitude.



**Figure 11:** Groin Impact on Shoreline

Beach nourishment is a reasonable alternative to tertiary structure construction. However, effective beach nourishment projects are themselves considered secondary structures. The advantage of beach

nourishment over constructing hard coastal structures is that erosion of the beach nourishment material actually supplies additional beach building sand to downdrift homeowners, instead of creating sand starved conditions resulting from building more hard seawalls. Implementation of beach nourishment requires large-scale cooperation and cost, which may not seem necessary to non-threatened downdrift homeowners. Consequently, construction of hard tertiary structures usually takes precedence over beach nourishment, and non-threatened homeowners soon find themselves threatened by the effects of downdrift erosion transfer.

### **Primary Structures on the Indiana Shoreline**

Two of the four primary structures on the Indiana shore have created a shoreline situation similar to that shown in Figure 10B. The Michigan City Harbor jetties and breakwater complex is a total sediment barrier at the eastern end of Reach 1 that creates a zone of erosion from the Indiana Dunes National Lakeshore, Mt. Baldy recreation area, westward towards Beverly Shores. Sand bypassing is not an acceptable alternative at this site because of the adverse effect it would have on the large beach and recreation area of Washington Park. Even though this area accreted as the east (updrift) depositional fillet formed, its recreational benefits far exceed the needs for it as a sand bypass sediment source. However, there is a depositional fillet located behind the detached breakwater on the west (downdrift) side of the Michigan City Harbor that could become a source of sediment for bypassing westward. But, depending upon the quantities necessary to prevent further downdrift erosion, beach nourishment material from an offsite source is the best "natural" alternative for mitigating downdrift erosion created by the Michigan City Harbor structure.

The Port of Indiana/Bethlehem Steel Industrial complex is a total sediment barrier at the western end of Reach 2 and eastern end of Reach 3. This complex traps material at the western end of Reach 2, in front of the NIPSCO Bailly power station. It also creates a zone of erosion from Midwest Steel westward through Ogden Dunes in Reach 3. Sand bypassing is a potential engineering alternative at this primary structure because material in the depositional fillet area on the east (updrift) side of the Port of Indiana/Bethlehem Steel Industrial Complex could be dredged with no adverse impact on the adjacent beach area. However, the amount of material removed must be carefully engineered so as not to destabilize the updrift beach areas of Indiana Dunes National Lakeshore and western Dune Acres. Material removed from the east (updrift) fillet should be transported westward to the eastern end of Indiana Dunes National Lakeshore and Ogden Dunes coastline in Reach 3.

The U.S. Steel/Gary Harbor complex forms a littoral barrier at the west end of Reach 3. Significant amounts of sediment are deposited at the shore and in the nearshore zone. There is essentially no impact from this primary structure because: 1) the downdrift shoreline west of the structure (downdrift), where erosion would normally be expected, is totally armored for nearly 12 miles (19.32 km) to the west and 2) the orientation of the shoreline results in net sediment movement in the opposite direction from west to east.

The Indiana Harbor complex is the largest shore-crossing structure on the Indiana coast. It extends approximately 2 miles out into Lake Michigan and, therefore, is a total littoral barrier to the movement of sand in the eastward net sediment transport on this portion of Indiana's coast in Reach 5. However, it has relatively little impact on the adjacent (downdrift) open coast of Reach 4. This is due to the limited amount of exposed beach in Reach 4, the wave sheltering effects that protect this area from the strongest northwest and north storm waves, and the wave diffraction effects provided by the Indiana Harbor complex itself. As expected, the complex does accumulate sediment on its west (updrift) side in Reach 5. However, there is relatively little sediment transported eastward towards this barrier that might otherwise enter Reach 4. The limited sediment transport from the west is due to the extensive breakwater structures

extending out into Lake Michigan at Calumet Harbor, Illinois. It is doubtful that any significant amount of sediment is presently being transported southward from the Chicago and south Chicago coast. It is also because of this limited sediment supply that the impact of the Hammond Marina structure, in Reach 5, upon adjacent shoreline will be of little significance in comparison to the blocking effects of Calumet Harbor, Illinois and Indiana Harbor.

#### Impact of Primary Structures

The following presents a brief history and analysis of each of the primary coastal structures along Indiana's coastline. Each section includes a brief history of the structure and sediment transport rates at the structure. Sediment transport rates were calculated using a sediment transport model for each primary structure location using a "deep water" wave height and angle. Three directions of wave approach angle were selected for the wave refraction analysis,  $0^{\circ}$ ,  $30^{\circ}$  and  $-30^{\circ}$ .

#### ***Sediment Transport at Michigan City***

Results of sediment transport rate calculations at Michigan City are summarized in Table 7. The sediment transport rates shown in Table 7 are calculated for nine months of ice-free lake conditions. The calculated net sediment transport volume is approximately 128,300 yds<sup>3</sup>/yr to the west. This value compares favorably with previous estimates by the U.S. Army Corps of Engineers of 90,000 yds<sup>3</sup>/yr (1975) and 115,000 yds<sup>3</sup>/yr (1982), and by the Great Lakes Coastal Research Laboratory of 88,000 yds<sup>3</sup>/yr (1988). This calculated net westward transport is consistent with the historic shoreline changes observed at Michigan City. It also implies that a significant quantity of material is trapped on the east (updrift) side of the jetty and diverted by the harbor complex, resulting in severe downdrift erosion on the west side of the Michigan City complex observed in the eastern portion of Reach 1 at Mt. Baldy.

#### ***Sediment Transport at the Port of Indiana/Bethlehem Steel Industrial Complex***

Results of sediment transport rate calculations at Port of Indiana/Bethlehem Steel Industrial Complex are summarized in Table 8. The sediment transport rates shown in Table 8 are calculated for nine months of ice-free lake conditions. The calculated net sediment transport volume is approximately 43,000 yds<sup>3</sup>/yr to the west. This value is high when compared with previous aerial photographic estimates of 17,000 yds<sup>3</sup>/yr (Wood and Davis, 1986) and lower than the previously computed rate by the Great Lakes Coastal Research Laboratory of 75,500 yds<sup>3</sup>/yr (1988). The U.S. Army Corp of Engineers (1982) estimated that approximately 27,000 yds<sup>3</sup> of sediment are transported westward at the location of the Port of Indiana/Bethlehem Steel Industrial Complex. This apparent difference in computed versus observed sediment transport rate is related to the assumed "window" of wave direction approach applied to the computational grid. What is important is that large volumes of sediment are transported along the coast at the Port of Indiana/Bethlehem Steel Industrial Complex, resulting in significant sand accumulation on the east side of the Port of Indiana/Bethlehem Steel Industrial Complex (at NIPSCO Bailly power plant) and significant downdrift (west) erosion in the eastern portion of Reach 3 at Ogden Dunes.

#### ***Sediment Transport at U.S. Steel/Gary Harbor***

Results of sediment transport rate calculations at U.S. Steel/Gary Harbor are summarized in Table 9. The sediment transport rates shown in Table 9 are calculated for nine months of ice-free lake conditions. The calculated net sediment transport volume is approximately 39,200 yds<sup>3</sup>/yr to the east. This value compares well to that of the U.S. Army Corp of Engineers (1978) estimate of 40,000 yds<sup>3</sup>/yr for western Reach 3. These values are much lower than the previously computed rate by the Great Lakes Coastal Research Laboratory of 156,000 yds<sup>3</sup>/yr (1988). The difference in computed values stems from the various shoreline orientations chosen. The 1988 value was computed with a shoreline orientation of  $90^{\circ}$ , and the new value as well as the 1978 value had a shoreline orientation of  $86^{\circ}$ . An important point is interpreting

the calculated sediment transport rates shown in Table 9 is sediment availability. The shoreline for more than 10 miles to the west of Gary Harbor is armored and fronted by relatively deep water resulting in a limited supply of sediment available for transport on this section of coast. The limited sediment availability may explain the seeming paradox between the eastward transport rate calculated by the model, even though there is an observed actual westward transport resulting in deposition of sediments against the U.S. Steel breakwall.

### ***Sediment Transport at Indiana Harbor Complex***

Sediment transport calculations were carried out for the length of shoreline occupied by the Indiana Harbor complex in Lake County. The meaningfulness of this calculation is doubtful owing to the lack of sediment supply and the highly complex nature of the bathymetry and engineered shoreline. Therefore, a table of calculated transport volumes is not presented, to avoid misinterpretation of these values.

One of the most significant shoreline effects of the Indiana Harbor complex is the reversed trend in net sediment transport produced on the east side of the complex (Reach 4). Sand accumulates on the west side, as expected, due to the north and northwest storm waves which create a predominate westward movement of sediment along this length of Indiana shoreline. However, sand also accumulates on the east side of the complex in Reach 5, where one would normally expect to see erosion. The reason for this reversal is the immense size of the Indiana Harbor complex, which prevents waves from the north and northwest from directly reaching this length of coastline. This sheltering effect results in the east waves dominating the net movement of sand in this area (Reach 4), pushing sediment toward the west. The U.S. Army Corps of Engineers (1978) calculated a longshore transport of 8,600 yds<sup>3</sup>/yr to the northwest for this stretch of coastline.

### **Secondary and Tertiary Structures on the Indiana Shoreline**

The impact of secondary structures is highly specific to the type, location and lifetime of the structure. Likewise, tertiary structures have highly localized effects on erosion and shoreline adjustment. Therefore, the effects of both types of structures will be discussed in the section on Coastal Stability for the individual reaches of shoreline.

Direction	-82.5	-75	-55	-35	-15	-2.5	5	25	45	65	82.5
Wave Height (m)											
0.125	-8.997	-59.936	-121.017	-121.966	-76.216	-5.704	34.071	696.541	450.488	131.836	18.454
0.50	-204.115	-1523.042	-3036.582	-2901.725	-1982.993	-110.217	658.314	9854.884	11654.213	2974.091	436.747
1.00	-306.186	-2654.115	-6199.204	-7312.973	-5198.113	-258.586	1544.508	17400.196	23378.204	5166.487	812.710
1.50	-328.688	-3624.427	-8602.627	-12337.108	-8944.003	-400.051	2389.463	23827.906	27075.535	5462.207	861.247
2.00	-283.350	-3027.328	-8526.973	-10755.636	-8084.114	-426.616	2548.131	26178.262	26784.856	5077.884	499.113
2.50	-154.552	-3070.618	-7853.531	-7795.897	-7441.439	-514.587	3073.572	17161.226	20852.136	3136.252	206.070
3.00	-91.259	-1852.975	-4111.910	-7791.463	-5400.178	-284.784	1700.9866	10898.855	13832.558	1863.384	19.556
3.50	-74.578	-427.413	-784.065	-3214.228	-4277.272	-193.194	1153.926	8778.645	12748.461	148.047	0.000
4.00	-38.241	-467.554	0.000	-879.024	-1462.181	-99.957	597.033	6614.383	5710.544	0.000	0.000
4.50	-16.834	-617.438	-353.955	-2708.566	-1287.286	-37.714	225.265	6146.684	4365.945	267.335	0.000
5.00	0.000	0.000	-1363.746	0.000	0.000	0.000	0.000	8309.626	4587.672	0.000	0.000
5.50	0.000	0.000	0.000	0.000	0.000	-15.201	90.796	1564.747	0.000	0.000	0.000
Total (m <sup>3</sup> /year)	-1506.802	-17324.846	-40953.611	-55818.587	-44153.784	-2346.611	14016.064	137431.954	151440.612	24227.522	2853.895
Total (yds <sup>3</sup> /year)	-1152.033	-13245.795	-31311.282	-42676.372	-33757.991	-1794.113	10716.050	105074.268	115784.656	18523.270	2181.959

	<b>Q<sub>eastward</sub></b>	<b>Q<sub>westward</sub></b>	<b>Q<sub>net</sub></b>	<b>Q<sub>gross</sub></b>
<b>m<sup>3</sup>/year</b>	-162104.240	329970.047	167865.807	492074.287
<b>yds<sup>3</sup>/year</b>	-123937.584	252280.203	128342.618	376217.787

**Table 7:** Quantity of sediment transport for the Michigan City Area. Note: Negative sign indicates transport from west to east. Direction is perpendicular from true North (0°).



Direction	-85	-70	-50	-30	-10	10	30	50	70	85
Wave Height (m)										
0.125	-8.030	-73.679	-121.852	-130.109	-90.367	321.600	415.698	190.640	78.747	8.096
0.50	-204.061	-1848.779	-2899.018	-3385.179	-1746.057	4550.105	10754.203	4300.657	1863.723	211.437
1.00	-355.605	-3774.296	-7306.150	-8873.731	-4096.524	8033.856	21572.796	7470.950	3468.065	371.034
1.50	-485.610	-5237.586	-12325.598	-15268.364	-6337.610	11001.598	24984.596	7898.575	3675.187	347.595
2.00	-405.609	-5191.524	-10745.601	-13800.442	-6758.449	12086.783	24716.365	7342.827	2129.856	252.308
2.50	-411.409	-4781.509	-7788.624	-12703.328	-8152.084	7923.521	19241.806	4535.148	879.358	126.587
3.00	-248.266	-2503.477	-7784.194	-9218.678	-4511.554	5032.118	12764.323	2694.529	83.449	56.060
3.50	-57.266	-477.367	-3211.230	-7301.760	-3060.575	4053.194	11763.946	214.082	0.000	0.000
4.00	-62.644	0.000	-878.204	-2496.098	-1583.520	3053.931	5269.541	0.000	0.000	0.000
4.50	-82.726	-215.500	-2706.039	-2197.517	-597.471	2837.989	4028.780	386.577	267.335	0.000
5.00	0.000	-830.297	0.000	0.000	0.000	2836.643	4233.384	0.000	0.000	0.000
5.50	0.000	0.000	0.000	0.000	-240.820	722.460	0.000	0.000	0.000	0.000
Total (m <sup>3</sup> /year)	-2313.198	-24934.015	-55766.511	-75375.207	-37175.030	63453.798	139745.439	35033.985	12178.386	1373.118
Total (yds <sup>3</sup> /year)	-1768.566	-19063.423	-42636.557	-57628.481	-28422.350	48513.910	106843.054	26785.404	9311.044	10493824

	<b>Q<sub>eastward</sub></b>	<b>Q<sub>westward</sub></b>	<b>Q<sub>net</sub></b>	<b>Q<sub>gross</sub></b>
<b>m<sup>3</sup>/year</b>	-195563.961	251784.726	56220.766	447348.687
<b>yds<sup>3</sup>/year</b>	-149519.376	192503.236	42983.860	342022.612

**Table 8:** Quantity of sediment transport for the Port of Indiana/Bethlehem Steel Industrial Complex. Note: Negative sign indicates transport from west to east. Direction is perpendicular from true North (0°).

Direction	-81	-61	-41	-21	-5.5	4.5	19	39	59	79	89.5
Wave Height (m)											
0.125	-25.884	-98.052	-144.135	-174.923	-99.212	66.575	302.902	199.092	120.150	42.606	0.053
0.50	-649.481	-2332.779	-3750.108	-3379.833	-1403.687	941.931	7836.138	4491.322	2843.632	1112.677	1.231
1.00	-1325.921	-5879.104	-9830.336	-7929.620	-2478.407	1663.113	15719.194	7802.166	5291.505	1952.553	2.074
1.50	-1839.797	-9918.148	-16914.322	-12267.679	-3393.942	2277.475	18205.230	8248.749	5607.528	1829.202	1.304
2.00	-1823.797	-8646.758	-15288.155	-13082.296	-3728.716	2502.122	18009.782	7668.363	3249.692	1327.760	1.448
2.50	-1679.758	-6267.341	-14072.771	-15779.948	-2444.369	1640.273	14020.699	4736.209	1341.707	666.161	0.478
3.00	-879.479	-6263.777	-10212.468	-8732.992	-1552.385	1041.714	9300.828	2813.988	127.325	295.014	0.499
3.50	-167.700	-2584.009	-8088.903	-5924.340	-1250.391	839.064	8571.896	223.573	0.000	0.000	0.260
4.00	0.000	-706.672	-2765.183	-3065.413	-942.124	632.204	3839.694	0.000	0.000	0.000	0.266
4.50	-75.706	-2177.492	-2434.413	-1156.522	-875.507	587.501	2935.604	403.715	0.000	0.000	0.000
5.00	-291.686	0.000	0.000	0.000	-1183.587	794.236	3084.690	0.000	0.000	0.000	0.000
5.50	0.000	0.000	0.000	-466.154	-222.876	149.559	0.000	0.000	0.000	0.000	0.000
Total (m <sup>3</sup> /year)	-8759.391	-44874.133	-83500.795	-71959.518	-19575.202	13135.768	101826.657	36587.176	18581.540	7225.973	7.614
Total (yds <sup>3</sup> /year)	-6697.035	-34308.736	-63840.938	-55016.999	-14966.315	10043.015	77852.066	27972.903	14206.607	5524.653	5.822

	<b>Q<sub>eastward</sub></b>	<b>Q<sub>westward</sub></b>	<b>Q<sub>net</sub></b>	<b>Q<sub>gross</sub></b>
<b>m<sup>3</sup>/year</b>	-215533.270	164228.961	-51304.304	379762.231
<b>yds<sup>3</sup>/year</b>	-164787.009	125562.050	-39224.959	290349.059

**Table 9:** Quantity of sediment transport for the U.S. Steel/Gary Harbor Area. Note: Negative sign indicates transport from west to east. Direction is degrees from perpendicular to true North (0°).

## **SHORELINE CHANGE OVER TIME**

Aerial photographs dating from 1939 to 1987 were available at the Great Lakes Coastal Research Lab (GLCRL) at Purdue University and were used to determine shoreline change based on bluff position, beach condition, water edge movement, and man-made structure performance. Beach and nearshore profile data collected annually at 43 positions on the Indiana shoreline from 1968 to 1973 by the U.S. Army Corps of Engineers, Coastal Engineering Research Center (CERC) were also available on GLCRL's computerized lakeshore database system. In addition, GLCRL's extensive survey data of beach and nearshore profiles collected at numerous locations from 1974 to 1986, were also available on the computerized lakeshore database system. The 1998 study has expanded the aerial photographs database to include photos from 1987 to 1995.

The nearshore region, extending from -20 feet of water depth to water's edge, is characterized by the presence of one or two permanent longshore sand bars that migrate onshore and offshore in response to lake-level fluctuation and wind-wave action. Most of the active sediment transport (movement of sand by waves and currents) occurs in the nearshore region. Sediment transport within this region usually occurs on a time scale from a few hours to a few days depending on the frequency and duration of local storms. The width of the nearshore region and the number of sand bars present within it are extremely important factors for assessing coastal erosion. Wide, multiple barred nearshore regions dissipate large amounts of incoming wave energy while a narrow, unbarred region offers very little resistance to incoming waves.

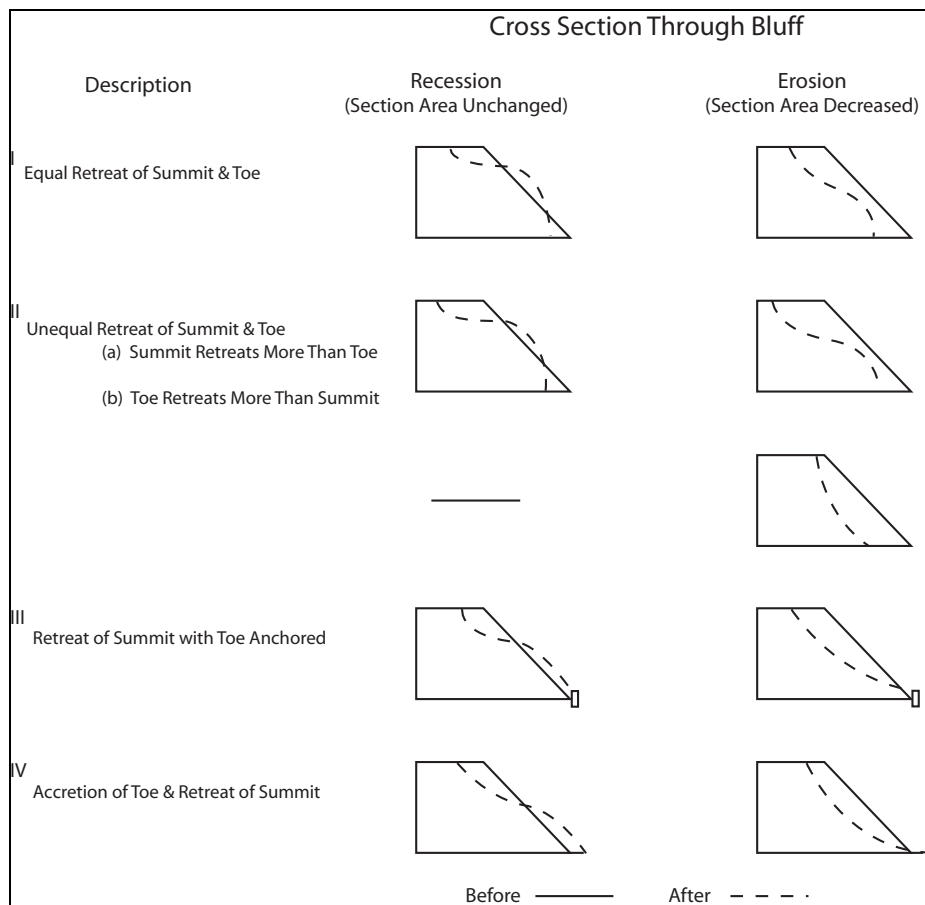
In the region lying at water depths greater than -15 to -20 feet (MSWL), which will be referred to as the offshore region, sediment accumulation and depletion occurs on a much longer time scale (annually or longer).

### **Coastal Erosion and Recession**

A major part of shoreline change is erosion and recession over time. In the 1998 report, erosion is defined as a loss of material from a cross-sectional area of beach or dune. Recession is defined as the retreat of a specific point on a cross-section of the beach or dune with no necessary loss of material. Stated in more generalized terms, erosion is related to the net loss of material, while recession is related to topographic changes with no necessary net loss of material.

There are three specific points on a beach-dune profile which are normally referenced when evaluating recession rates: 1) shoreline (0 feet MSWL), 2) toe of dune-bluff, and 3) top of dune-bluff. Of these three, shoreline is the most ambiguous reference point for determining recession rates. For example, the annual lake-level cycle produces a recession and advance of the shoreline regardless of the occurrence of any actual erosion and/or deposition.

The use of "toe of dune-bluff" or "top of dune-bluff" measurements to determine recession and erosion rates provide a degree of improvement over shoreline, but these measurements are also difficult to interpret directly. Figure 12 shows the various toe and top of dune-bluff (summit) changes that can be anticipated for a coastal dune foreslope. This series of diagrams illustrates the complex nature of foreslope variability and supports the argument that recession rates cannot be directly interpreted as erosion rates. However, of these two, the "top of dune-bluff" provides the best estimate of erosion on the coast.



**Figure 12: Difference between Recession (no loss of material) & Erosion (loss of material)**

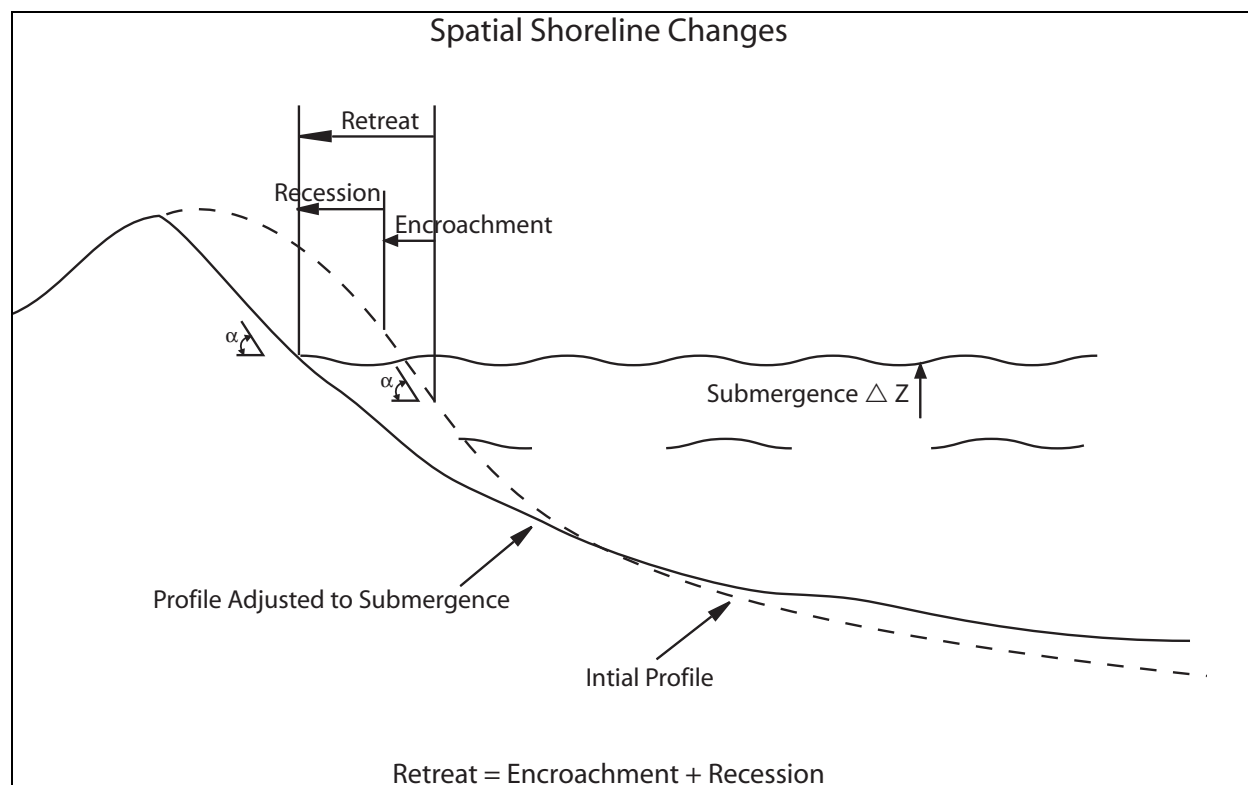
## **COASTAL STABILITY EVALUATION**

The intent of this section is to provide a unified, updated (1995) evaluation of shoreline change along Indiana's coast. There are maps illustrating each length of coastline within the individual littoral cells (reaches) except in areas where dune-bluff is poorly defined. Below the maps are figures, graphs, and tables that show cumulative dune-bluff recession/accretion. Figures of the cumulative water's edge movement are not presented due to the subjectivity of interpreting this data, as discussed below.

The position of the water's edge can vary on a daily or even hourly basis subject to a number of phenomena including erosion, wind and wave setup, and pressure setup. Therefore, it would be necessary to account for each of these temporary occurrences and variations in order to evaluate the observed movement of the water's edge. However, the movement of the top of the dune-bluff is directly dependent upon erosion, and therefore is a much better indicator of shoreline erosion than is movement of the water's edge.

Figure 13 depicts spatial shoreline changes associated with lake-level rise. Shoreline retreat is shown in Figure 13 to be a combination of encroachment (apparent loss of beach due to submergence under water) and recession (real loss of beach material due to erosion of the dune-bluff, which results in the depicted profile adjustment). Of these two losses, recession is less likely to be restored under conditions of falling lake-level because the dune bluff material that was lost would need to be replaced. Encroachment is

totally recoverable because the falling lake level re-exposes the previously submerged beach. This section provides recession/accretion data at specific points on the coastline (referred to as recession).



**Figure 13: Definition Diagram Depicting Three Concepts of Spatial Shoreline Change: Retreat, Encroachment and Recession**

The data in this section were compiled primarily from aerial photographs and were verified at specific locations with beach survey data collected by GLCRL beginning in 1975. The maps in four of the five sections are drawn for the time period 1976-78 (dependent upon aerial photography and ground truth availability) to 1995. The figure for the littoral cell for Reaches 1 and 2 was drawn for the time period 1969 to 1995 because ground verification existed and because more detail could be provided on the Indiana Dunes State Park area within this cell.

Historical recession rates are given in detailed tables for each numbered position shown on the maps. Where aerial photographs were available, these rates are calculated as far back as 1938.

The seventy-seven (77) locations used for recession measurements are shown in a series of five detailed maps. These locations were selected to correspond to well established beach survey lines, important coastal features (i.e., updrift from structural traps), or easily recognizable landmarks (roads, buildings, or coastal structures).

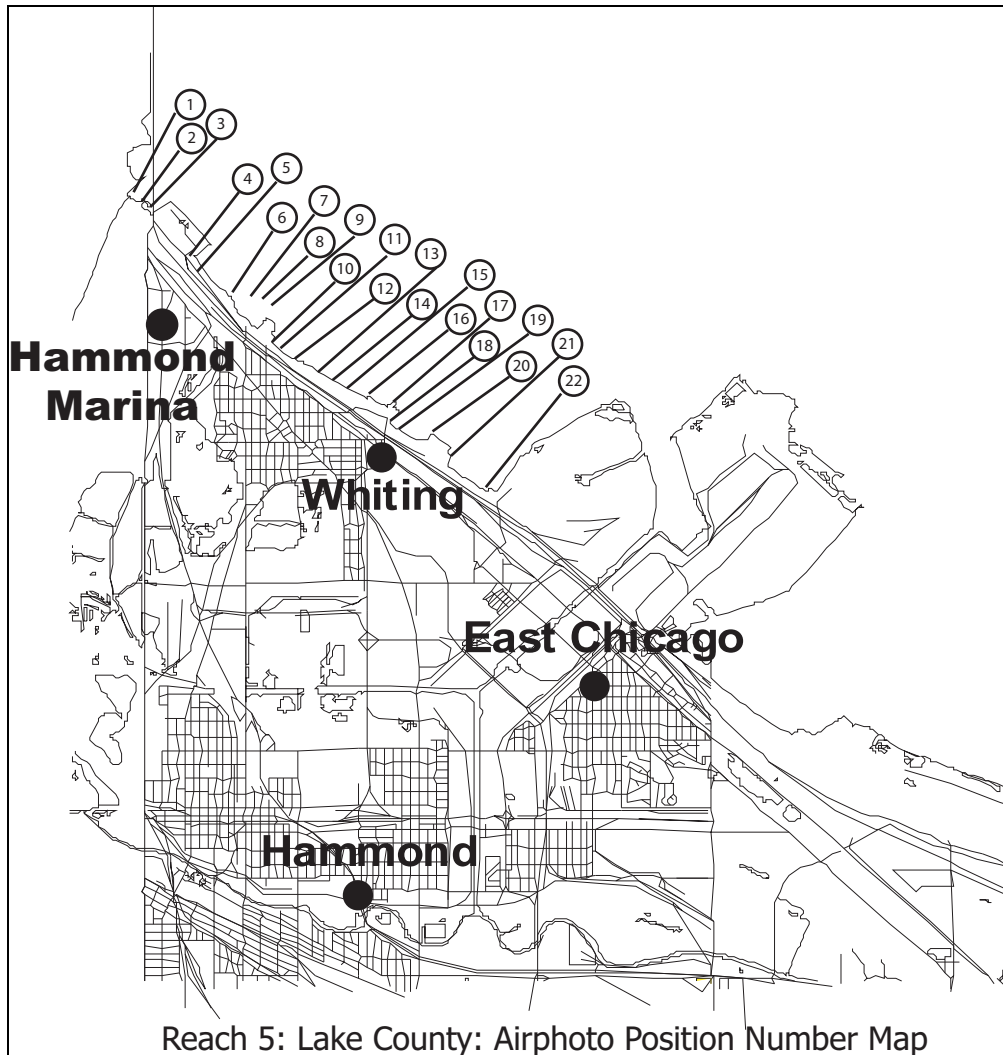
## MAP Index and Aerial Photo (AP) Positions

Reach 5 Hammond, Whiting, BP (Amoco) Map 1 AP 1-22	Table 10
Pastrick Marina – Gary Works Harbor (east) Map 2 AP 23-32	Table 11
US Steel (west) – Ogden Dunes Map 3 AP 33-45	Table 12
Bethlehem Steel – Michigan City Map 4 AP 46-65	Table 13
Michigan City – Michigan State Line Map 5 AP 66-77	Table 14

#### Coastal Stability, Reach 5

This reach evaluation presents detailed recession measurements for 22 locations from the Illinois-Indiana state line to Indiana Harbor shown on Map 1. Locations 3 to 18 are within the area designated as Reach 5 (Figure 2). Table 10 lists cumulative dune-bluff recession and annual recession rates for those locations with a dune-bluff present. Data are shown for the 57-year period from 1938 to 1995.

In summary, this area remained relatively stable over the eight-year study period (1987-1995) as was the case in previous years. Dune-bluff recession was found to be relatively consistent at the three measured positions ranging from a gain of 15.4 feet to 17.2 feet. None of these areas showed signs of long-term erosion over the period from 1987 to 1995. One notable exception to the area's stability was observed at position 14 between 1987 and 1990. During this time period, 6.4 feet of erosion was recorded. This could have been a result of excessive storm wave attack during this span of time from a direction that resulted in erosion. This lost material was subsequently replaced over the next 5 years. A detailed discussion of beach and offshore profiles for Reach 5 is presented in the Hammond Marina Site Evaluation Report (1987).



Map 1: Location Map, Reach 5

[NOTE: A graph showing the cumulative dune-bluff erosion curve in Reach 5 was not drafted because of the limited number of data points (5) that were applicable.]

AIRPHOTO	1938 - 1955		1955 - 1976		1976 - 1987		1987 - 1995			No. of
POSITION	Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Total	Years
NUMBER	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	
1	---	---	---	---	---	---	---	---	---	
2	---	---	---	---	---	---	---	---	---	
3	---	---	---	---	---	---	---	---	---	
4	---	---	---	---	---	---	---	---	---	
5	73.5	4.30	50.0	2.40	-8.0	-0.70	17.2	2.15	132.7	(57)
6	---	---	-21.4	-1.00	12.0	1.10	15.4	1.93	6.0	(40)
7	3.4	0.20	10.5	0.50	-20.0	-1.80	---	---	---	(49)

AIRPHOTO	1938 - 1955		1955 - 1976		1976 - 1987		1987 - 1995			No. of
POSITION	Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Total	Years
NUMBER	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	
8	---	---	---	---	---	---	---	---	---	
9	---	---	---	---	---	---	---	---	---	
10	---	---	---	---	---	---	---	---	---	
11	---	---	---	---	---	---	---	---	---	
12	-82.7	-4.90	---	---	---	---	---	---	-82.7	(17)
13	---	---	-7.7	-0.40	-15.0	-1.40	---	---	-22.7	(40)
14	7.4	0.40	15.0	0.70	4.0	0.40	16.6	2.08	43.0	(57)
15	---	---	---	---	---	---	---	---	---	
16	---	---	---	---	---	---	---	---	---	
17	---	---	---	---	---	---	---	---	---	
18	---	---	---	---	---	---	---	---	---	
19	---	---	---	---	---	---	---	---	---	
20	---	---	---	---	---	---	---	---	---	
21	-5.3	-0.30	3.8	0.20	---	---	---	---	-1.5	(46)
22	---	---	---	---	---	---	---	---	---	
Table 10: Cumulative Dune-Bluff Recession and Annual Recession Rates, Reach 5										

*Last Updated on 10/17/98 By Computing Center*

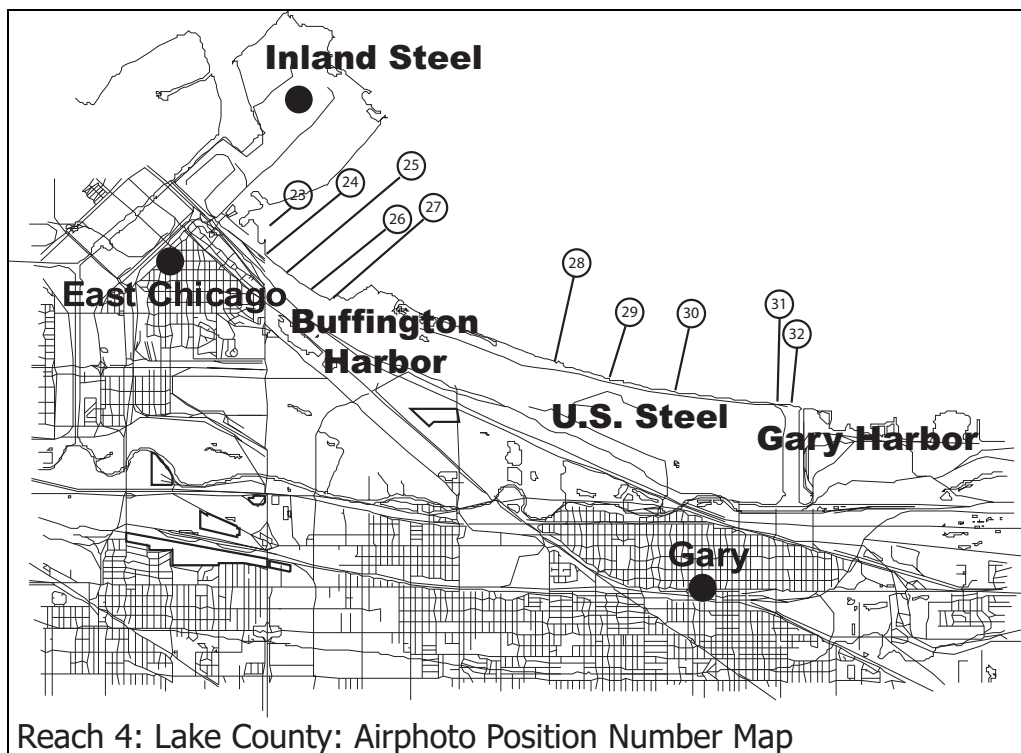
#### Coastal Stability Reach 4

This reach evaluation presents detailed recession measurements for 10 locations from Indiana Harbor to Gary Harbor as shown on Map 2. Locations 23 to 27 are within the area designated as Reach 4 (Figure 2). Table 11 lists cumulative dune-bluff recession and annual recession rates for the 57 year period from 1938 to 1995. Figure 14 shows cumulative dune-bluff recession for the period 1987 to 1995.

This area has been highly engineered and is protected from all, but northeasterly, storm waves by the Indiana Harbor complex. This situation has greatly reduced dune-bluff recession within Reach 4. The artificial nature of this shoreline makes it difficult to interpret any of the data in a contemporary framework. What is evident in Table 11 is the high rates of dune-bluff recession prior to armoring of most of this coastal reach. Locations 26 to 30 all show substantial loss from 1938 to 1955 and 1955 to 1976. Erosion was observed at three locations in this study area. Two of the three positions occurred in historically erosional areas (28) or downdrift of a sediment trapping structure (31). Significant loss of material (24 feet) was noted downdrift (west) of Gary Harbor due to this structure eliminating westward migration of sediment. An exception to this was found at location 32 where rock revetment and rubble protects the shoreline.

There is additional beach and offshore profile data for locations 23-27 from 1997 to 2001. This data was collected during a 5-year monitoring program conducted at Pastrick Marina as a condition of the State permit for construction of the new gaming boat breakwater.





Map 2: Location Map, Reach 4

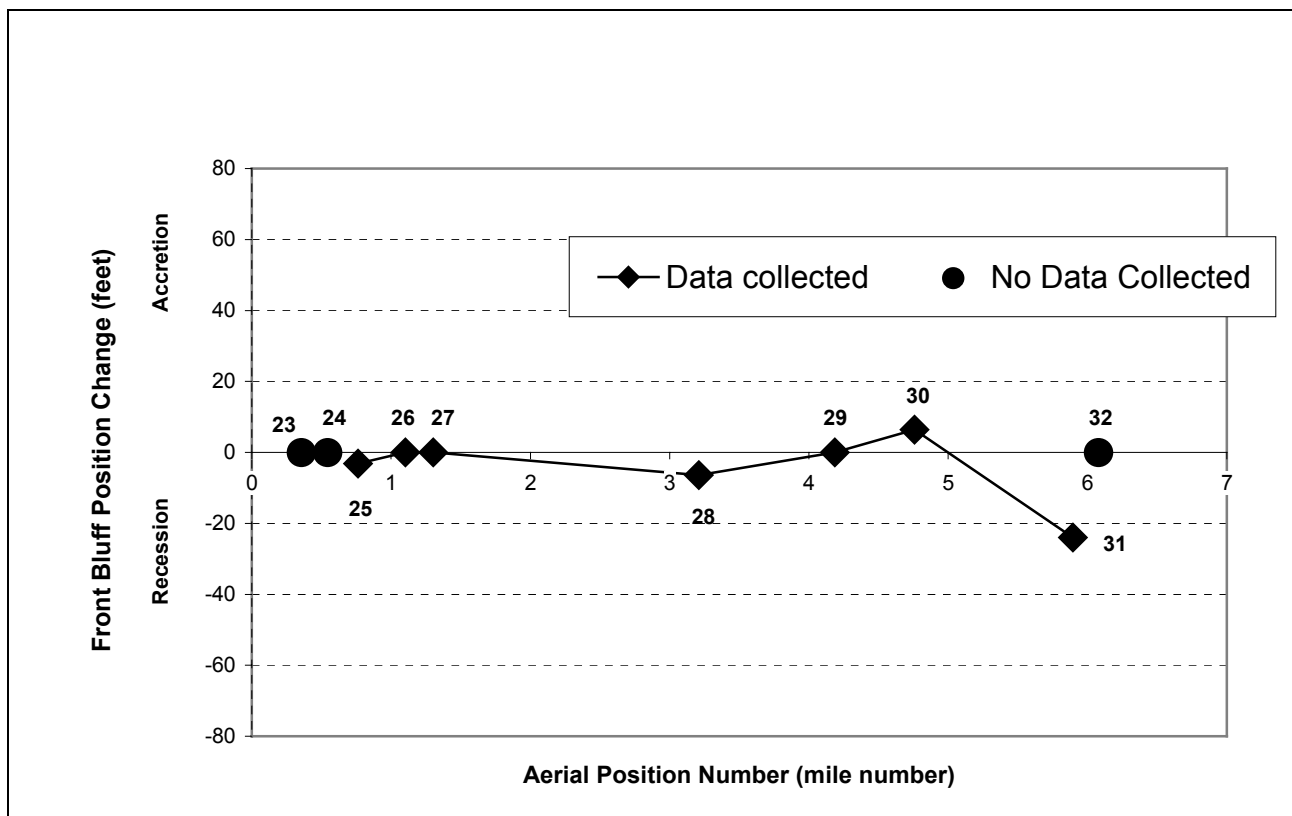


Figure 14: Cumulative Dune-Bluff Erosion Curve 1987 to 1995, Reach 4

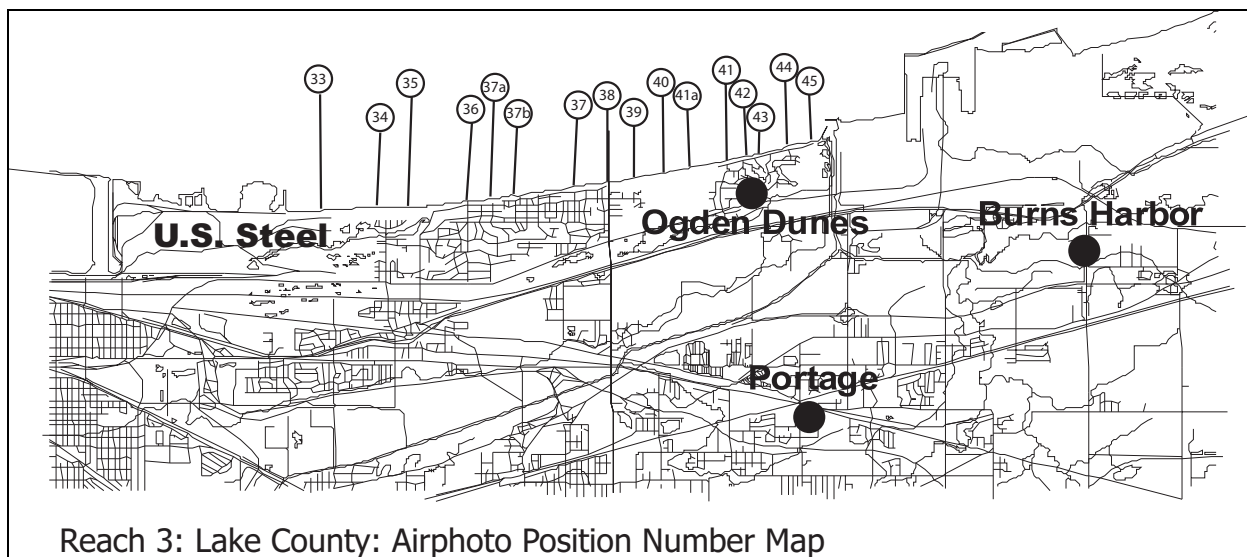
AIRPHOTO	1938 - 1955		1955 - 1976		1976 - 1987		1987 - 1995			No. of
POSITION	Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Total	Years
NUMBER	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	
23	---	---	---	---	---	---	---	---	---	
24	---	---	---	---	---	---	---	---	---	
25	---	---	---	---	41.0	3.70	-3.2	-0.40	37.8	(19)
26	-65.1	-3.80	-161.4	-7.70	30.0	2.70	0.0	0.00	-196.5	(57)
27	-149.2	-8.80	-116.4	-5.50	-45.0	-4.10	0.0	0.00	-310.6	(57)
28	---	---	-27.3	-1.30	4.0	0.40	-6.4	-0.80	-29.7	(40)
29	---	---	-12.1	-0.60	30.0	2.70	0.0	0.00	17.9	(40)
30	-14.7	-0.90	0.7	0.03	51.0	4.60	6.4	0.80	43.4	(57)
31	43.1	2.50	7.1	0.30	---	---	-24.0	-3.00	26.2	(46)
32	---	---	---	---	---	---	0.0	0.00	0.0	
Table 11: Cumulative Dune-Bluff Recession and Annual Recession Rates, Reach 4										

*Last Updated on 10/17/98 By Computing Center*

### Coastal Stability, Reach 3

This reach evaluation presents detailed recession measurements for 19 locations from the Gary Harbor/U.S. Steel lakefill to Portage Burns Waterway as shown on Map 3. All of the locations are within the area designated as Reach 3 (Figure 2). Table 12 lists cumulative dune-bluff recession and annual recession rates for the 18-year period from 1969 to 1995. Figure 15 shows cumulative dune-bluff recession for the period 1987 to 1995.

This length of coastline is accretional in the western third and erosional in the eastern third (see Table 12). This indicates a definite migration of material toward the west. Dune-bluff accretion is observed from Marquette Park west to the U.S. Steel breakwater structure, from 1987 to 1995. This is a result of the overall westward movement of sediment being trapped on the east side of U.S. Steel lakefill breakwater. The central portion of Reach 3 (locations 37 to 40) is relatively stable over the study period with accretion being observed at two locations. Stability is to be expected in this transitional zone between accretional (western) and erosional (eastern) zones. Dune-bluff erosion rates from the west end of Ogden Dunes eastward to Portage Burns Waterway (locations 41 to 45) are severe and increase as the survey positions approach Portage Burns Waterway. This high erosion is the result of the combined effects of the Port of Indiana/Bethlehem Steel Industrial Complex being a "primary" sand trapping structure (total littoral barrier) and the breakwaters protecting this waterway acting as a "secondary" littoral barrier for sediment moving west. Recession was not determined at a few locations in Ogden Dunes where the dune-bluff was not distinguishable. The anomalous accretion shown at location 45 for the time period of 1984 to 1987 (see Table 13) is the result of a 127,000 cubic yards beach nourishment project placed immediately downdrift (west) from the new Portage Burns Waterway/Burns Small Boat Harbor breakwater in fall 1985. Detailed discussion of beach and offshore bathymetry as well as earlier erosion/deposition trends is given in Chapter 7 of the Indiana Dunes National Lakeshore Shoreline Situation Report (1986).



Map 3: Location Map, Reach 3

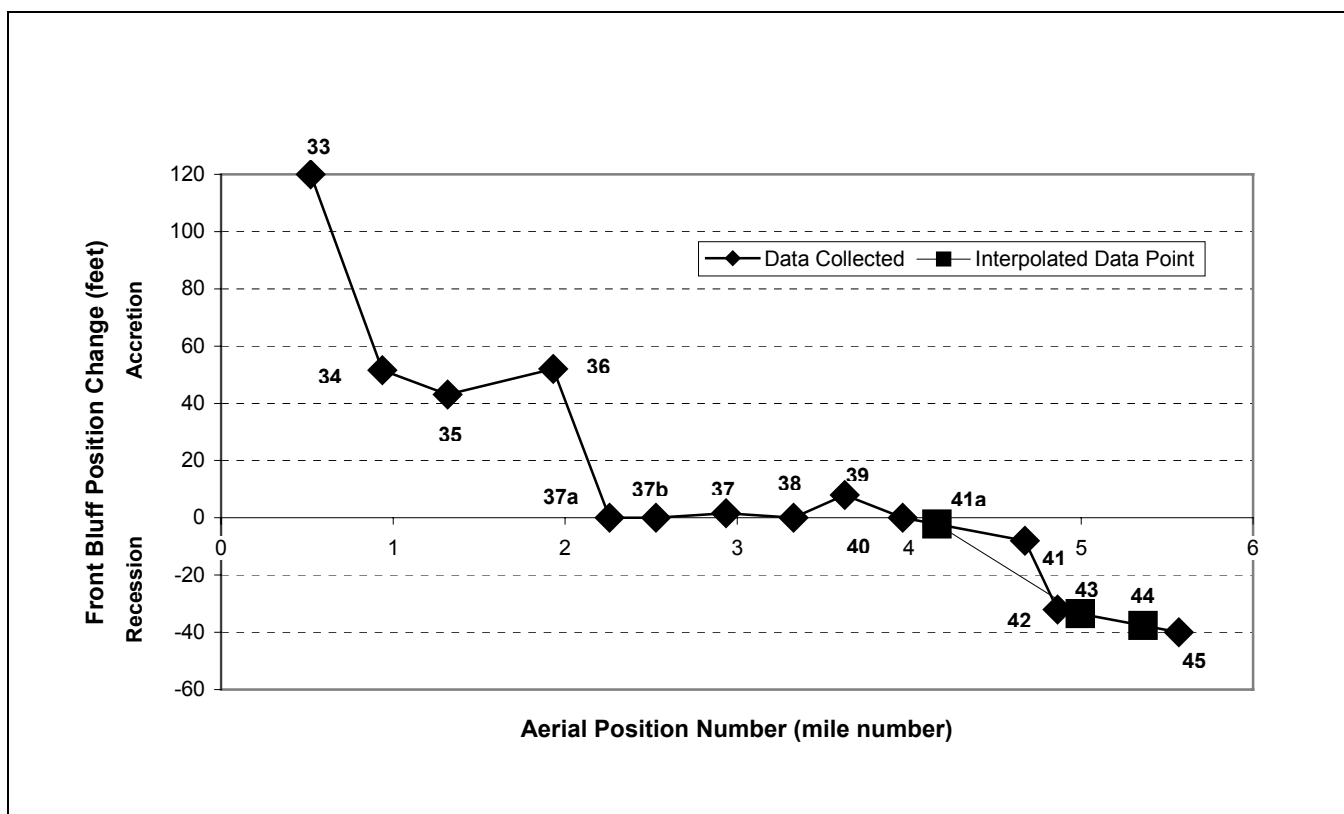


Figure 15: Cumulative Dune-Bluff Erosion Curve 1987 to 1995, Reach 3

AIRPHOTO	ASSOCIATED	1969 - 1972		1972 - 1978		1978 - 1984		1984 - 1987		1987 - 1995			No. of
POSITION		Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Total	Years
NUMBER	SURVEY LINE OR ROAD	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	
33		---	---	---	---	26.0	4.33	-32.0	-10.67	120.0	15.00	114.0	(17)
34		---	---	---	---	0.9	0.15	4.0	1.33	51.6	6.45	56.5	(17)
35		---	---	---	---	38.1	6.35	6.4	2.13	43.1	5.39	87.6	(17)
36	Montgomery St.	---	---	---	---	12.7	2.12	22.8	7.60	52.0	6.50	87.5	(17)
37a		---	---	---	---	-34.4 <sup>*</sup>	-5.73	34.0 <sup>@</sup>	11.33	0.0	0.00	-0.4	(16)
37b		---	---	---	---	-15.2 <sup>@</sup>	-2.53	20.0 <sup>@</sup>	6.67	0.0	0.00	4.8	(16)
37		---	---	---	---	1.1	0.18	-9.6	-3.20	1.6	0.20	-6.9	(17)
38	County Line Rd.	---	---	---	---	-16.7	-2.78	3.2	1.07	0.0	0.00	-13.5	(17)
39		---	---	---	---	23.4	3.90	-22.4	-7.47	8.0	1.00	9.0	(17)
40		---	---	---	---	65.9	10.98	-19.2	-6.40	0.0	0.00	46.7	(17)
41a	GLCRL 1	---	---	---	---	7.2 <sup>#</sup>	1.20	-3.2	-1.07	---	---	4.0	(16)
41		15.0	5.00	-57.5	-9.60	-1.4	-0.23	-41.6	-13.87	-8.0	-1.00	-93.5	(26)
42		13.6	4.50	-79.1	-13.20	0.4	0.07	-6.4	-2.13	-32.0	-4.00	-103.5	(26)
43		-37.4	-12.50	-62.6	-10.40	3.1	0.52	-25.6	-8.53	---	---	-122.5	(26)
44		-12.6	-4.20	-110.7	-18.50	-18.8	-3.13	-29.2	-9.73	---	---	-171.3	(26)
45		-45.9	-15.30	-120.4	-20.10	-48.0	-8.00	3.2	1.07	-40.0	-5.00	-251.1	(26)

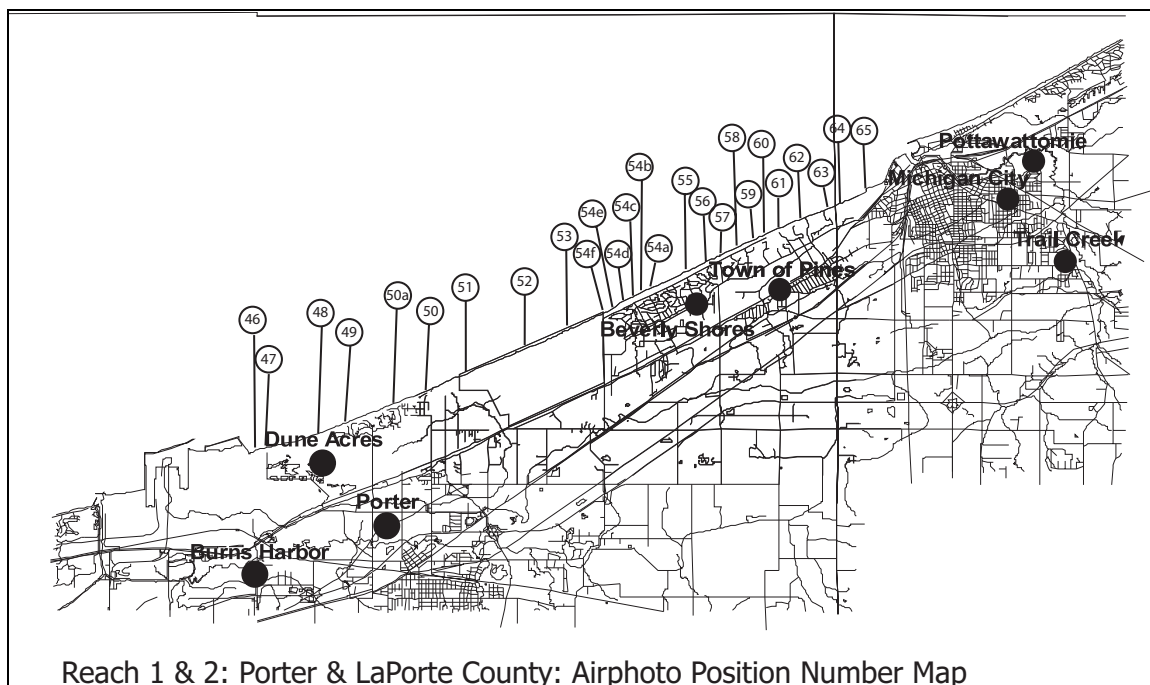
Table 12: Cumulative Dune-Bluff Recession and Annual Recession Rates, Reach 3

\* 1979-1986; @ 1986-1987; # 1979-1984

### Coastal Stability, Reaches 1 and 2

This section presents detailed recession measurements for 34 locations from the Port of Indiana to Michigan City Harbor as shown in Map 4. All of the locations are within the areas designated as Reaches 1 and 2, which comprise a single littoral cell on the Indiana shoreline (Figure 2). Table 13 lists cumulative dune-bluff recession and annual recession rates for the 26 year period 1969 to 1995. Figure 16 shows cumulative dune-bluff recession for the period 1987 to 1995.

In summary, this length of coastline shows significant recession throughout a majority of the survey positions. Substantial accretion was found on the east (updrift) side of the Port of Indiana/Bethlehem Steel Industrial Complex in the extreme western end of Reach 2. This sand accumulation continues eastward about 1 mile (locations 46 to 48). This accretion was found to increase dramatically as the breakwater complex is approached. Historical dune-bluff recession rates from the 1988 report are variable in the eastern section of Reach 2 (approaching the west end of Beverly Shores) with some sections of coast having high recession and some low. This remained to be true for the 1998 investigation with an additional trend being observed. Zones of accretion alternate with zones of erosion. This trend was observed well into Reach 1. Construction of a 13,000-foot long rock revetment structure in front of Beverly Shores in 1975 greatly reduced recession rates between locations 54b and 59 through 1987. Unfortunately, failure and repeated repairs of portions of this shoreline armor has resulted in increased recession, especially in the western portion of Beverly Shores (locations 54b to 55) where excessive erosion was recorded. Dune-bluff recession and erosion in the extreme eastern end of Reach 1 at Mt. Baldy (locations 62 to 65) is historically the highest on the Indiana coastline (8 to 10 feet per year). Although the erosion from 1987 to 1995 was not as high as previously reported values, erosion still continues and extends westward to the eastern end of the Beverly Shores' rock revetment (location 60). Several locations where the dune-bluff was not distinct were identified. A federally authorized beach nourishment project for this section of shoreline is urgently needed. This urgency is predicated on the need to protect this impacted length of shore and most importantly to replenish sediment removed from the littoral transport system by the updrift Michigan City Harbor structures. Detailed discussion of beach and offshore bathymetry as well as earlier erosion/deposition trends is given in Chapters 5 and 6 of the Indiana Dunes National Lakeshore Shoreline Situation Report (1986).



Map 4: Location Map, Reach 1 & 2

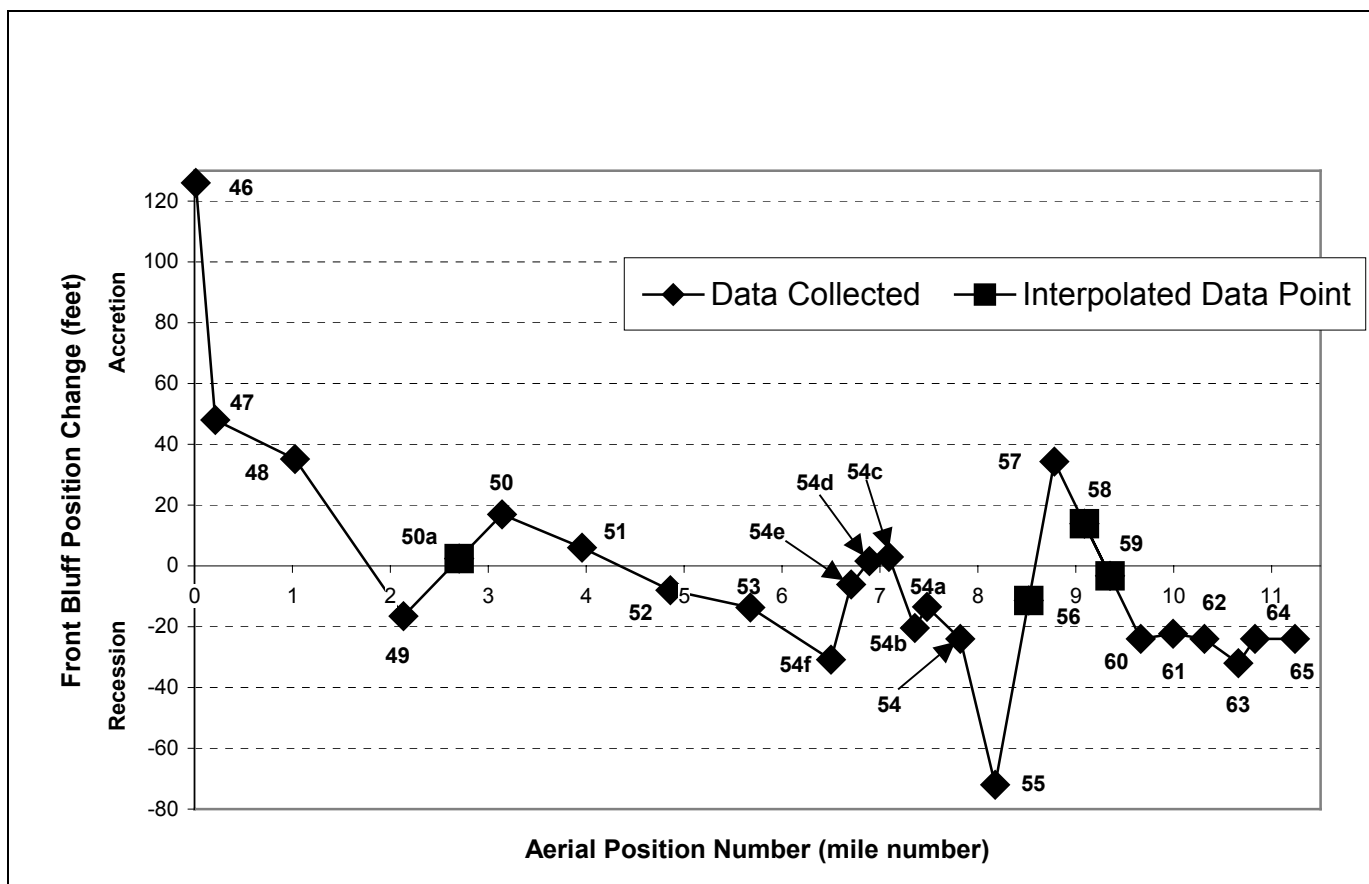


Figure 16: Cumulative Dune-Bluff Erosion Curve 1987 to 1995, Reach 1 & 2

		1969-1973		1973-1984		1984-1987		1987-1995			
AIR PHOTO POSITION NUMBER	SURVEY LINE OR ROAD	Recession (feet)	Rate (ft/yr)	Recession (feet)	Rate (ft/yr)	Recession (feet)	Rate (ft/yr)	Recession (feet)	(ft/yr)	Total Recession (feet)	Number of Years
46	CERC 7	4.4	1.10	-13.2	-1.20	-5.4	-1.80	126.0	15.75	111.8	(26)
47	CERC 8	0.0	0.00	45.0	4.09	-8.0	-2.67	48.0	6.00	85.0	(26)
48	CERC 9	-30.2	-7.55	17.2	1.56	-5.2	-1.73	35.2	4.40	17.0	(26)
49	CERC 10	-81.8	-20.45	9.6	0.87	6.2	2.07	-16.5	-2.06	-82.5	(26)
50a		---	---	---	---	-48.0	-16.00	---	---	-48.0	(11)
50	CERC 11	9.1	2.28	-4.2	-0.38	3.2	1.07	17.0	2.13	25.1	(26)
51	CERC 12	-31.7	-7.93	169.4	15.40	-108.8	-36.27	6.0	0.75	34.9	(26)
52	CERC 13	-65.7	-16.43	113.9	10.35	-118.4	-39.47	-8.0	-1.00	-78.2	(26)
53	CERC 14	-43.8	-10.95	51.4	4.67	-34.4	-11.47	-13.7	-1.71	-40.5	(26)
54f	15-1 Kemil Rd	---	---	---	---	-16.0	-5.33	-30.8	-3.85	-46.8	(11)
54e	Windsor Pl	---	---	---	---	-28.8	-9.60	-6.1	-0.76	-34.9	(11)
54d	Dunbar Ave.	---	---	---	---	-31.0	-10.33	1.6	0.20	-29.4	(11)
54c	Derby Ave.	---	---	---	---	-48.0	-16.00	2.9	0.36	-45.1	(11)
54b		---	---	---	---	-3.2	-1.07	-20.4	-2.55	-23.6	(11)
54a	b/n Broadway & Greatwater	---	---	---	---	-6.4	-2.13	-13.5	-1.69	-19.9	(11)
54	16-1 Shore Ave.	-19.9	-4.98	-2.2	-0.20	-54.4	-18.13	-24.0	-3.00	-100.5	(26)
55	16-A (SR-4)	-72.6	-18.15	-5.8	-0.53	-24.0	-8.00	-72.0	-9.00	-174.4	(26)

AIR PHOTO POSITION NUMBER	SURVEY LINE OR ROAD	1969-1973		1973-1984		1984-1987		1987-1995		Total Recession (feet)	Number of Years
		Recession (feet)	Rate (ft/yr)	Recession (feet)	Rate (ft/yr)	Recession (feet)	Rate (ft/yr)	Recession (feet)	(ft/yr)		
56	16-B Beach Ave.	-38.0	-9.50	-13.3	-1.21	-12.8	-4.27	---	---	-64.1	(26)
57	17-1 (SR-4)	-89.3	-22.33	-4.6	-0.42	3.2	1.07	34.3	4.29	-56.4	(26)
58	17-A	-19.1 <sup>*</sup>	-4.78	-8.7 <sup>@</sup>	-0.79	6.4	2.13	---	---	-21.4	(26)
59	17-B (SR-5)	---	---	-4.6	-0.42	19.2	6.40	---	---	14.6	(26)
60	18-1 (SR-6)	-42.6	-10.65	-3.2	-0.29	-57.6	-19.20	-24.0	-3.00	-127.4	(26)

*Table 13:* Cumulative Dune-Bluff Recession and Annual Recession Rates, Reaches 1 and 2

\* 1964-1972; @ 1972-1984

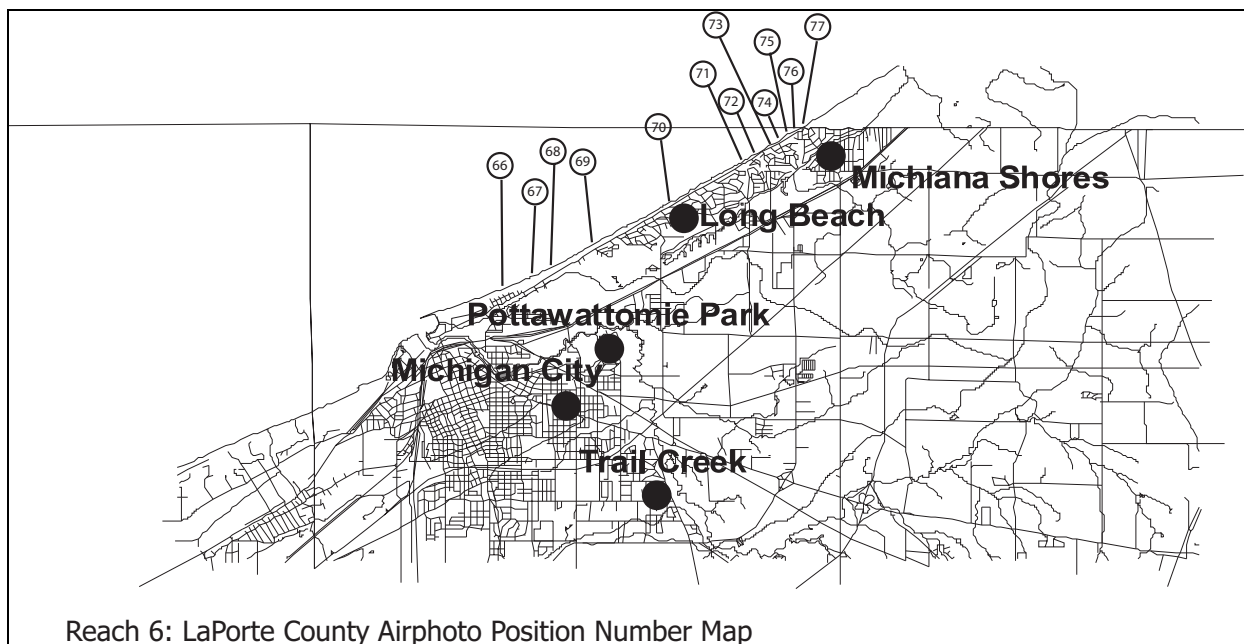
*Last Updated on 10/17/98 By Computing Center*



### Coastal Stability, CZM (Reach 6)

This reach evaluation presents detailed recession measurements for 12 locations from Michigan City Harbor to the Indiana-Michigan state line as shown in Map 5. Table 14 lists cumulative dune-bluff recession and annual recession rates for the 17-year period 1978 to 1995. Figure 17 shows cumulative dune-bluff recession for the period 1987 to 1995.

In summary, this length of coastline has accretion at the western end at the Michigan City lighthouse jetty (location 66 to 69); is fairly well armored in the central section through the town of Long Beach (locations 69 to 74); and is recessional at the eastern end to the Michigan state line (locations 75-77). The dune-bluff buildup that was identified east of Washington Park (locations 66 to 68) in 1987 continued over the eight years of this investigation (Table 14). This accretion occurs in the region of deposition caused by the sand trapping effect of the Michigan City Harbor structures. Owing to the extensive seawall and revetment structures, the sediment trapping at Michigan City Harbor and the lack of a major sediment barrier to the east, almost this entire coastline has relatively low recession rates. Only the extreme eastern end of this reach shows significant erosion, Figure 17 (locations 76 and 77). In the late 1980s, a rock revetment structure and a short segment of sheet-steel wall was constructed to protect the lakeshore road and to stabilize this length of coastline extending from the eastern end of Long Beach to the Michigan state line. Detailed discussion of beach and offshore bathymetry, as well as earlier erosion/deposition, trends is presented in Shoreline Situation Report for LaPorte County, Indiana (1981).



Map 5: Location Map, CZM (Reach 6)

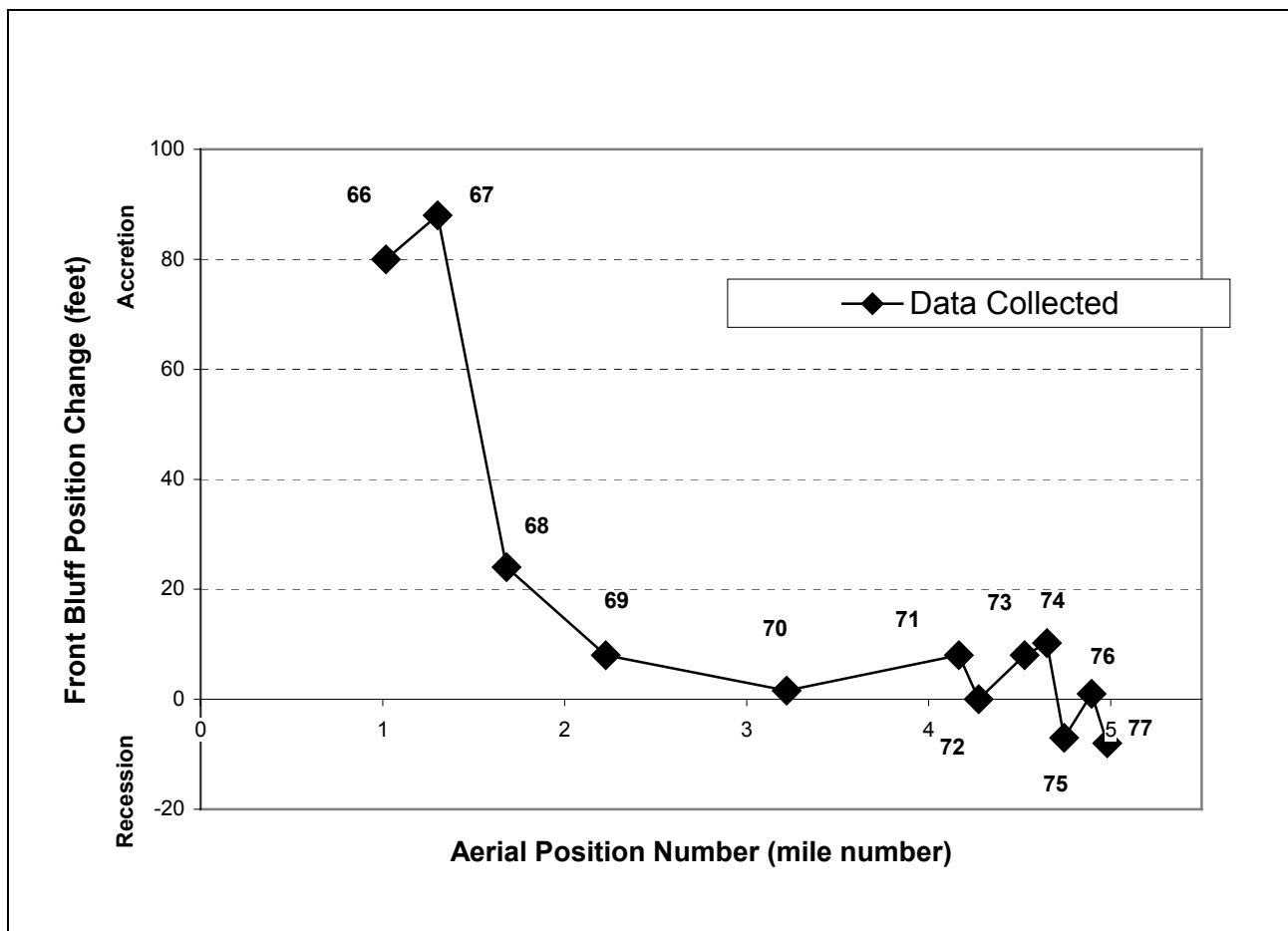


Figure 17: Cumulative Dune-Bluff Erosion Curve 1987 to 1995, CZM (Reach 6)

AIRPHOTO	APPROXIMATE	1969 - 1973		1973 - 1978		1978 - 1980		1980 - 1987		1987 - 1995			No. of
POSITION		Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Total	Years
NUMBER	SURVEY LINE OR ROAD	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	
66	Georgia Ave	---	---	12.6	2.52	-37.8	-18.90	80.8	11.54	80.0	10.00	135.6	(22)
67	Carolina	-54.7	13.68	19.2	3.84	-33.3	-16.65	102.8	14.69	88.0	11.00	122.0	(26)
68	Turner Ave.	-48.3	12.08	-8.0	-1.60	-17.0	-8.50	75.2	10.74	24.0	3.00	25.9	(26)
69	SR-23	---	---	---	---	3.0	1.50	6.0	0.86	8.0	1.00	17.0	(17)
70	R-24 Hazeltine Dr. (SR-25)	---	---	---	---	-21.3	-10.65	4.3	0.61	1.6	0.20	-15.4	(17)
71	near Morre Rd.	---	---	---	---	-0.5	-0.25	8.2	1.17	8.0	1.00	15.7	(17)
72	Duneland Rd.	---	---	---	---	7.4	3.70	-7.6	-1.09	0.0	0.00	-0.2	(17)

AIRPHOTO	APPROXIMATE	1969 - 1973		1973 - 1978		1978 - 1980		1980 - 1987		1987 - 1995			No. of
POSITION		Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Recession	Rate	Total	Years
NUMBER	SURVEY LINE OR ROAD	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	(ft/yr)	(feet)	
73	Iroquois Tr.	---	---	---	---	7.4	3.70	16.4	2.34	8.0	1.00	31.8	(17)
74	Arrowhead Trail	---	---	---	---	-1.8	-0.90	0.8	0.11	10.2	1.28	9.2	(17)
75	b/n Michinda & Arrowhead Tr.	---	---	---	---	-2.7	-1.35	1.2	0.17	-7.0	-0.88	-8.5	(17)
76	Michinda Tr.	---	---	---	---	-11.9	-5.95	-22.4	-3.20	1.0	0.13	-33.3	(17)
77	near Michiana SR-26(state line)	---	---	---	---	-20.1	-10.05	-46.4	-6.63	-8.0	-1.00	-74.5	(17)
Table 14: Cumulative Dune-Bluff Recession and Annual Recession Rates, CZM (Reach 6)													